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### An Experimental Examination of the Thematic Apperception Technique in Clinical Diagnosis

By

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In its scientific origins this research stems from two main sources: Henry A. Murray and L. L. Thurstone.

A. A. HARTMAN

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## AN EXPERIMENTAL EXAMINATION OF THE THEMATIC APPERCEPTION TECHNIQUE IN CLINICAL DIAGNOSIS

### I. INTRODUCTION

THE problem of personality diagnosis has assumed major importance in present-day clinical psychology. In the constant search for valid methods of personality evaluation psychologists have turned from the standard inventories and questionnaires to a variety of indirect forms of approach characterized by L. K. Frank (7) as "projective methods." Of these, the Thematic Apperception Technique (TAT), first proposed in 1935 by Morgan and Murray (15), has now become one of the most widely used personality tests in psychological clinics of the United States (12). Presumably this interest is mainly exploratory in character in view of the limited and untested experimental research on the method. At present the TAT is in the status of a very promising diagnostic instrument whose theoretical and practical significance remains to be determined.

It is proposed in this study to examine experimentally the significance of the TAT in the clinical diagnosis of personality and behavior. What areas of personality are disclosed by the TAT? How accurate an appraisal does it yield? To what extent do the separate form and content characteristics of TAT responses actually reveal personality?

These are questions with which the expanding literature on the TAT is in large part concerned. Most of this work has appeared only within the past five years and can hardly be viewed in perspective, especially since the historical background of the TAT itself has not yet been definitively drawn. Some future psychological historian will perhaps integrate the emergence of the TAT method into the complex pattern of a new and rapidly growing sci-

ence. Two main lines of development in such an orientation may be anticipated:

1. The influence of experimental psychology; the reference here is to the later nineteenth century work on perception and memory, to the Wundtian and Herbartian views on apperception, to Lipps' theory of the role of empathy in perception, and to the work of Galton, Ebbinghaus, Binet, and Stern on the higher mental processes;

2. The influence of clinical psychology; this is defined broadly to include the mental testing movement, the growth of the psychiatric clinics, and the psychiatric and psychological research on the problem of personality. Of a dozen pertinent names that might be mentioned, that of Herman Rorschach is particularly important for the development of the TAT; the publication of his "Psychodiagnostics" (23) in 1921 marks the point at which clinical psychologists began to concern themselves with studying personality as a whole through the use of non-formalized and unstructured methods.

As a matter of fact, Murray's work appears to derive primarily from psychiatric and psychoanalytic sources rather than from the main stream of psychology. He does, however, pay tribute to the influence of the psychologists McDougall, Stern, Lewin, and G. W. Allport. There is no reference in Murray's writings to the early studies of Brittain (4) and Libby (11) in which children's imagination was studied through stories written to a series of pictures—or to Schwartz' use in 1931 of "social-situation pictures" (26) in the psychiatric interview of delinquents. Murray (18), who was experimenting with picture materials at least as early as 1933, may well have anticipated Schwartz.

Sargent's survey (25) of the origins of the projective methods is probably the best source on the theoretical background and development of the TAT. Several recent reviews of research have also appeared. A section of White's article on "Interpretation of Imaginative Productions" (33, pp. 235-238) deals with some theoretical contributions and with the proposals for scoring and interpreting the TAT. Mayman (14), in Rapaport's "Diagnostic Psychological Testing," presents a brief but well-rounded survey of the development of the TAT, the techniques for interpretation, and the problems of standardization and application. Some twenty articles on the evaluation or applications of the TAT,

which were published from 1944 to 1947, are listed and briefly described by Hertz, Ellis, and Symonds (10). The first book to be devoted to the TAT, by Tomkins (31), provides a comprehensive survey of research on the method; particularly thorough is its review of the literature on the problems of reliability and validity.

The number of possible ways in which analysis and description of the TAT can be organized appears to be limited only by the special interests and background of the individual investigator. A few illustrations of the variety of proposed solutions may be cited. Murray's analysis (16) is presented from the point of view of a biodynamic psychiatry, in which the interaction of organism and environment is estimated in terms of press-need units. F. H. Sanford (24) treats the responses to pictures as samples of oral speech, and analyzes them quantitatively according to 234 grammatical, lexical, and "mechanical" categories. Balken and Masserman (3), using many similar linguistic categories to analyze TAT responses, interpret their findings as revealing the unconscious mental dynamisms underlying the neuroses of patients. Tomkins (31), drawing upon his philosophical training, constructs a logically exact system of vectors, levels, conditions, and qualifiers; and he describes its application to the TAT by reference to Mills' *Canons of Reasoning*.

The leading proposals for scoring and analyzing the TAT are grouped by Wyatt (34) into four major types:

1. the need-press analysis of Murray and his associates;
2. the analysis of formal aspects of the TAT, i.e., the use of quantifiable categories indicating qualities of the content, structure and modality of phantasy productions;
3. mixed types of analysis;
4. the intuitive interpretation, which is the most universal approach and the one acknowledged as the common matrix for any clinical use of the TAT.

Although Wyatt's scheme provides a few guideposts in a still obscure field, its limitations are evident. Even Murray's method includes elements of the three other approaches. Tomkins' unwieldy framework comprises not only the press-need factors but also some formal, intuitive, and analytical concepts for the analysis of the TAT. And Rapaport, who is probably the leading exponent of a qualitative type of approach, suggests scrutiny of the formal characteristics of the story structure and content, including such aspects as compliance, consistency, characteristics of verbalization, the figures described, and the strivings and attitudes expressed.

If there is one point on which most

of the leading investigators in this field are agreed, it is the need for a systematic experimental approach to the TAT. Rapaport, for example, precedes a detailed clinical discussion of the diagnostic indicators of the TAT with a plea for the systematic analysis of verbalizations collected in standard situations. The desirability of further diagnostic differentiation is cited by Wyatt as a major reason for quantitative treatment of the TAT, a reason "... which even the most callous intuitionist cannot overlook if he wants to make the most of the rich potentialities of the test" (34, p. 320). Murray, who begins his "Explorations in Personality" with a light-hearted appreciation of "... the art of drawing sufficient conclusions from insufficient premises" (16, p. 22), concludes some seven hundred pages later by offering the TAT as a standardizable procedure for the systematic investigation of covert mental processes. "Suitable techniques of verification should," he warns, "be practiced as a rite, otherwise there will be no limit to what the imagination can do with the material" (16, p. 729).

It is from this compound of theory, clinical experience, and research that the present study receives its inspiration. The point of view is taken that an empirical examination of the TAT can be made through a systematic analysis of responses considered in relation to the standard personality classifications of clinical and academic psychology. An answer is sought to two leading questions which are important both to the theory of personality and to clinical practice:

1. What are the relationships between specific characteristics of TAT responses and personality components?

2. What are the areas and limits of personality prediction from the TAT?

The problem has been approached from a combined clinical and experimental view. The fallacy of distinguishing sharply between so-called global qualitative and analytical quantitative methods of research is demonstrated. Although our approach is frankly quantitative, the basic data were gathered by individual study of cases in a psychiatric clinic; case-records form the experimental core of the study. In the analysis of the data, however, standard procedures for quantification and statistical treatment were employed. Lundberg's position is in point when he maintains that the terms quantitative and qualitative simply represent different stages in the description of data (13, pp. 5-30).

At this stage of our investigation of

the TAT it appeared most profitable to describe the statistical uniformities in the mass of clinical information obtained. The field of personality diagnosis, and in particular its approach through the TAT, is only crudely charted. The greatest need now is for the development of general hypotheses to serve as guides for more specifically directed research. A practical limit to the treatment of the data at this point is set by the exploratory scope of the inquiry. It was hoped that by surveying a great many possible relationships between TAT responses and personality traits, we would ascertain those, if any, which are possibly significant and which therefore merited the further scrutiny of clinical investigation or controlled experimentation.



## II. MATERIALS AND PROCEDURES

### A. OVER-ALL VIEW

IN THE more stabilized fields of psychological research many procedures have become part of the experimental routines and need not be described in each new investigation. Here, however, considerable detail is required to provide a clear picture of the processes and assumptions on which the findings are based. Inasmuch as this material is fairly extensive a preliminary over-all view will be taken.

Our study was conducted on cases of delinquent and dependent boys undergoing examination in the Psychiatric Department of the Cook County Juvenile Court. These boys are held in custody at the Detention Home adjoining the Court, pending the completion of their examination. During this interim period a probation officer investigates the child's home and social background. A psychiatric social worker interviews the parents in many cases and obtains additional history information. Reports are secured on the boy's school adjustment, his physical condition, and his behavior while in the Detention Home. Psychological and psychiatric examinations are then completed, each case is discussed in staff conference, and a report is submitted to the judge on the day of the court hearing.

The subjects of this experiment were given a series of special tests and interviews prior to their examination by the Psychiatric Department. Each subject was rated by the Experimenter and the Psychiatrist independently, following a comprehensive scale of personality and behavior variables. The TAT was administered subsequently and the protocols transmitted to an independent

observer, expert in the TAT, who interpreted them by blind analysis and rated the subject on a third copy of the rating scale. The ratings of the three observers were then compared for each personality variable and for each case as a whole. A detailed analysis of the form and content characteristics of responses on the TAT was also made, and each TAT category was correlated with the personality variables of the rating scale.

### B. SUBJECTS

Thirty-five white boys of average or superior intelligence between the ages of thirteen and seventeen were studied. Other than these general restrictions of sex, race, intelligence, and age the only factor determining selection was that of availability, a leeway of two days being required in each case before the scheduled psychiatric examination. It was anticipated that this selection would yield a group relatively homogeneous in certain respects but representing, by virtue of the varied types of cases seen in court clinics, a wide sampling of the personality range. No assumptions were made as to the representativeness of the selection with respect to the general population or to delinquents in general.

The average age of the group was 15 years 7 months. On the Otis Test their average intelligence quotient was 98.8 (range: 85-114). The California Test of Personality showed an average percentile rank of 45 on total adjustment, with a range of individual cases from the 1st to the 95th percentile rank. Twenty-six of the subjects were Chicago born and the rest natives of Illinois or other midwestern states. Seventeen were Catholics, seventeen Protestants, and one Greek Orthodox. In many instances the reasons for referral to the Court were compound; the cases may be roughly grouped, however, as follows: robbery, six cases; larceny, eleven; bur-

glary, five; truancy and incorrigibility, seven; sex, five; and fire-setting, one case.

### C. TESTS AND MATERIALS

As a rule it was possible to complete the clinical study, rating, and TAT on two cases each week. A standard sequence was followed as detailed below.

1. *Otis Self-administering Test of Mental Ability* (Intermediate and Higher Examinations, Form A or B).

2. *California Test of Personality* (Intermediate Series). This is one of the more widely known personality questionnaires. It consists of 180 questions divided into the general areas of self-adjustment and social adjustment, and within these into a number of sub-areas of adjustment. There is also a section of seventy-four interest and activities items which is not scored.

3. *The Stogdill Behavior Cards*. This is a form of questionnaire consisting of 150 cards on which are printed questions dealing with a wide range of normal and delinquent behavior. The subject is required to sort the cards into two boxes labelled Yes and No. According to Stogdill (28) this provides a "low-pressure type of test-interview" situation which encourages frankness. The scores are compared with norms for groups of delinquent and non-delinquent boys.

4. *Interview procedure*. Each subject was interviewed for at least two hours depending upon the complexity of the case and the completeness of information obtained from the case-record and the examinations. No formal schedule was followed. The subjects were encouraged to talk spontaneously about themselves, and this provided leads for further questioning. Unusual responses on the Stogdill Cards and on the California Personality Test suggested other points of inquiry. The items of the rating scale were kept in mind, and questions formulated with an ear towards clarifying those areas in which judgments were least certain.

5. *The Rating Scale*. A behavior rating scale (Appendix A) was devised to aid in objectifying the case-study and test data, and to provide a quantifiable common denominator for comparison of the personality evaluations from three sources: (a) the Experimenter, whose ratings were based upon the special tests, interviews, and available case-history materials; (b) the Psychiatrist,<sup>1</sup> whose ratings were based upon the completed case-record, upon his examination, and upon the staff conference; and (c) the TAT-

Interpreter (the independent observer),<sup>2</sup> who based his ratings solely upon blind analysis of the TAT protocols. The rating scale is of the linear type and is similar in format to the Haggerty-Olsen-Wickman Behavior Rating Scale. Forty-two bi-polar behavior and personality variables (items 27 and 30 were later eliminated because of incomplete or unreliable rating data) are included as listed below:

1. Asthenic—Pyknic
2. Weak—Strong
3. Handsome—Ugly
4. Untidy—Neat
5. Friendly—Hostile
6. Evasive—Frank
7. Self-conscious—Poised
8. Dull—Bright
9. Fluent—Taciturn
10. Feminine—Masculine
11. Energetic—Apathetic
12. Aggressive—Passive
13. Depressed—Happy
14. Mature—Infantile
15. Inhibited—Uninhibited
16. Stable—Unstable
17. Anxious—Secure
18. Introverted—Extroverted
19. Deliberate—Impulsive
20. Self-reliant—Dependent
21. Realistic—Autistic
22. Feels inferior—Feels superior
23. Easily frustrated—High threshold
24. Home atmosphere
  - Pleasant—Unpleasant
25. Relationship to father
  - Attachment—Rejection
26. Relationship to mother
  - Attachment—Rejection
27. Relationship to siblings
  - Attachment—Rejection
28. Relationship to adults
  - Defiant—Compliant
29. Relationship to peers
  - Popular—Disliked
30. School adjustment
  - Good—Poor
31. Material needs
  - Satisfied—Deprived
32. Emotional needs
  - Satisfied—Deprived
33. Recreation
  - Sedentary—Active
34. Recreation
  - Solitary—Group
35. Recreation interests
  - Many—Few
36. Moral standards
  - Conventional—Anti-social

<sup>1</sup> Dr. Sam I. Stein, Staff Psychiatrist, Illinois Institute for Juvenile Research.

<sup>2</sup> Assistant Professor William E. Henry, University of Chicago.

- 37. Sex adjustment  
Conflicted—Unconflicted
- 38. Sex activity  
Retarded—Exaggerated
- 39. Nervous symptoms  
Many—None
- 40. Goals and ambition  
Ambitious—Drifter
- 41. Total personality adjustment  
Good—Poor
- 42. Prognosis  
Poor—Good

Each item is defined on the rating scale by a statement or question and is judged in terms of a continuum, along which five descriptive phrases indicate the extremes and guiding points. The scale is divided into four general sections: Appearance, Response during Interview, Personality Traits, and Areas of Adjustment. The first two sections were not included in the ratings obtained through blind analysis of the TAT records. The final form of the rating scale was reached after trial with a number of provisional trait lists, and after a preliminary testing on three clinic cases who were studied and rated by the Experimenter and the Psychiatrist in the same manner as the experimental cases.

6. *Procedure of administering the TAT.* The Experimenter administered the TAT after the completion of his tests, interviews, and ratings on each subject. The following eighteen cards of the third Harvard Psychological Clinic revision were given, in the order listed.

Harvard Series No.	Identifying Description
1	Boy with violin
2	Farm scene—girl with books
6BM	White-haired woman standing with back towards young man
7BM	Two heads—older man and young man
3BM	Boy huddled on floor against couch
4	Young woman clutching shoulders of young man who is turning away
5	Woman at threshold of half-open door
8BM	Operation scene
12BG	Rowboat scene
11	Mountain scene—chasm, rocks, dragon
13B	Boy on doorstep of log cabin
14	Silhouette in window
13MF	Woman lying on bed—man standing near
17BM	Man climbing rope

- 18BM ..... Man—hands clutching him from behind
- 19 ..... Snow covered cabin
- 20 ..... Man standing under street-light
- 16 ..... Blank card

In general, Murray's instructions (17) were followed but modifications were introduced to achieve the maximum possible uniformity of administration throughout the experimental series. A standard procedure was maintained:

(1) The TAT will be given in each case after the completion of the psychological tests, interview, and rating;

(2) S. will be seated in usual interview position (not with back to E.);

(3) S. will be instructed as follows:

(a) I AM GOING TO SHOW YOU SOME PICTURES, ONE AT A TIME, AND I WANT YOU TO MAKE UP A STORY ABOUT EACH ONE. YOUR STORY SHOULD TELL WHAT HAPPENED BEFORE, WHAT IS GOING ON NOW, AND THEN WHAT HAPPENS IN THE END. AND BE SURE TO SAY WHAT THE PEOPLE IN YOUR STORY ARE THINKING AND FEELING. YOU CAN MAKE UP ANY KIND OF STORY YOU WISH; THERE IS NO RIGHT OR WRONG ANSWER.

(b) REMEMBER, IN YOUR STORY TRY TO TELL WHAT HAPPENED BEFORE, WHAT IS HAPPENING NOW, AND WHAT HAPPENS IN THE END—HOW IT TURNS OUT. AND ALSO TELL WHAT THE PEOPLE ARE THINKING OR FEELING.

(c) YOU HAVE ABOUT FIVE MINUTES FOR EACH PICTURE. HERE IS THE FIRST ONE.

(4) If no story outcome is given on the first picture, inquire, "HOW DOES IT TURN OUT?" After Picture 1 is completed make some appropriate comment and repeat paragraph (3) (b) above.

(5) A five minute rest interval will be given after the tenth picture. Before resuming the series, paragraph (3) (b) above will be repeated.

(6) Instructions on the last picture (blank card) are as follows: NOW I WANT YOU TO MAKE UP YOUR OWN PICTURE STORY ON THIS CARD. TELL WHAT YOU CAN SEE ON THIS BLANK CARD. IMAGINE SOME PICTURE THERE AND MAKE UP A STORY ABOUT IT JUST THE WAY YOU HAVE BEEN DOING.

(7) Inquiry: Upon completion of the last picture, S. will be questioned briefly about any obscure or incomplete references in his stories. Inquiry will be limited to non-suggestive questions necessary to clarify specific items.

(8) S. is then asked to sort all the pictures



into two groups, liked and disliked, and to select from each group the two pictures most liked or disliked. Reasons for the choices will be noted.

(9) Recording: All responses by S., and relevant comments or questions will be recorded verbatim. Comments or questions by E. (outside of the standard instructions) will also be noted.

(10) Timing: Initial response time, significant pauses, and total time will be noted. If S. has not completed his response at the end of five minutes E. will indicate that he is to bring it to a close.

(11) Questions by S.: In general, requests for help or interpretation beyond the standard instructions are met by saying, "JUST SAY WHAT YOU THINK. THERE IS NO RIGHT OR WRONG ANSWER; JUST WHATEVER YOU SAY." If S. inquires about a detail in the picture say, "YOU MAY MAKE IT ANYTHING YOU THINK."

(12) Observation of behavior: No notation of S.'s behavior will be included in the experimental record. In a few instances it is necessary to include items such as, "Subject points to figure on right," in order to clarify the response.

(13) No additional interrogation regarding the responses will be included in the experimental record.

#### D. STATISTICAL PROCEDURES

In the quantification of the data and the analysis of results standard statistical procedures were utilized. The essential data, consisting of TAT responses and personality diagnoses, were expressed numerically, the former by direct rating and the latter by converting the judgments of the rating scales into scores along a ten point line. Basic reliance was placed on the correlation method as the most efficient expression of the many different relationships studied. Two

forms of correlation were employed, the Pearson product-moment correlation for the comparisons of the blind analysis interpretations, and the bi-serial correlation method for the major bulk of the comparisons between TAT response categories and the personality variables of the rating scale. The formula for the bi-serial correlations is taken from Dunlap (6); the standard error for bi-serial  $r$  is given by Peters and Van Voorhis (20, p. 365).

An indispensable aid to the analysis of the data was the use of a hand-sorting, twelve by fifteen, card procedure developed by the Psychometric Laboratory (32). A single card was used for each case; ratings on the personality variables were indicated on one side by scores for which designated lines were drawn to the edge of the card; the TAT categories were indicated on the other side by lines to show into which portion of the dichotomy each category fell. A multitude of rapid cross-comparisons between different groupings of cases and items was thereby rendered practicable through the continued re-sorting and "fanning" of the cards. Another advantage of this procedure for clinical research is the fact that the identity of the individual case is retained. Clinical observations and follow-up information can be entered on each card and rapidly compared against all other accumulated data.

### III. METHODS AND RESULTS OF CORRELATING TAT CATEGORIES AND PERSONALITY VARIABLES

#### A. THE SELECTION OF TAT CATEGORIES

THE categories on which our analysis of the TAT was based represent a progressive selection from a great many items surveyed in the literature. Murray (16, pp. 530-545), W. E. Henry (9), and Rapaport (21, pp. 395-460) were the main sources. An attempt was made to select terms which were clear, apparently meaningful, and amenable to quantitative classification. Many categories descriptive of responses from adults or from special types of cases were eliminated immediately by inspection as not pertinent to our group; other items were quickly found to be inapplicable. A tentative list of about 120 categories was tested with a few of the TAT protocols and some seventy thereupon selected for the more detailed analysis of all of the records.

In the final correlational comparisons fifty-six of the TAT categories were utilized (Appendix B), the others having been discarded on three main grounds:

1. the data yielded were too irregular or incomplete to warrant statistical analysis; thus, the category *Humor*<sup>1</sup> was noted in only five of the TAT records;
2. the classifications were found to be subjectively unclear or logically untenable; for example, the category *Symbolic Content* was felt to be obscure and variable in meaning even after persistent attempts to apply it to the records;
3. the results of analysis showed such close correspondence between two or more categories that separate statistical treatment would have been pointless;

<sup>1</sup>For purposes of clarity, TAT response categories will be italicized hereafter except when in list form.

for example, the ranking of subjects on the categories of *Fluency* and on *Total Number of Words Per Record* was practically identical.

#### B. OUTLINE OF CATEGORIES FOR ANALYSIS OF TAT RESPONSES

##### *Modes of Response*

1. Degree of fluency
2. Speed of initial response to pictures
3. Degree of compliance with the instructions
4. Number of questions asked
5. Number of interjections
6. Amount of picture criticism
7. Degree of certainty with which response is stated
8. Degree of self-reference
9. Number of pictures liked
10. Degree to which response is disjointed or incoherent
11. Degree of stereotypy of language, ideas, or form
12. Clarity of statement of the story outcome

##### *Formal Characteristics of Responses*

13. Relative emphasis on past time
14. Relative emphasis on present time
15. Relative emphasis on future time
16. Vocabulary level
17. Popular (versus unusual) interpretations
18. Picture dominated (versus concept dominated) interpretations
19. Whole (versus detail determined) interpretations
20. Extrareceptive (versus intrareceptive) interpretations
21. Degree of emphasis on action or movement
22. Strength of attack upon conflict issues
23. Degree of peculiarity of content
24. Number of rare picture details observed
25. Degree of distortion of perceptual elements of pictures

##### *Thematic Emphases*

26. Achievement
27. Frustration
28. Aggression
29. Anxiety
30. Conflict
31. Punishment
32. Giving aid
33. Receiving aid

34. Escape
35. Sensory gratification
36. Passivity

#### *Feeling Qualities Characterizing the Responses*

37. Pleasant feeling-tone
38. Aesthetic feeling
39. Paranoid feeling
40. Guilt feeling
41. Narcissistic feeling
42. Sadistic feeling
43. Inferiority feeling
44. Expressions of ambivalence
45. Environment described as benign
46. Interpersonal relationships described as concordant
47. Interpersonal relationships described as strong rather than weak
48. High degree of feminine identification indicated

#### *Topics Emphasized in the Responses*

49. Age of characters
50. Newness or age of objects
51. Neatness or orderliness
52. Light or dark features of the pictures
53. Books or movies cited as source of the story
54. Suicide
55. Sex activity
56. Appearance or dress of male characters

### C. METHOD OF ANALYSIS OF TAT RECORDS

The TAT records of the thirty-five subjects were analyzed in detail following the categories outlined. A separate study was made of each of the 630 stories produced. The typed records were placed in random order; all identifying information, including the age of the subject, was removed and a code number substituted. The responses of the thirty-five subjects to the first picture were then analyzed, those to the second picture, and so on until the entire series of eighteen pictures had been considered. This, it will be observed, is a departure from usual clinic procedure in which all the responses of each subject are analyzed either in sequence or as a whole.

In the analysis the stories were rated numerically from one to five on each category depending upon the intensity or frequency of manifestation of the item, or upon its importance in the story. This is essentially Murray's method of quantifying press-needs. When all of the stories had been rated the records of each subject were assembled and his total scores on each category determined. These total scores when arrayed provided a relative ranking of the subjects. A dichotomy within each category then yielded a high and low group, on the basis of which, bi-serial correlations with the distributions of personality ratings were computed.

A few exceptions were necessary to this direct method for determining the relative rank of the subjects in each TAT category. The factor of varying length of response from subject to subject distorted the scores of the items on thematic emphasis. To solve this difficulty each subject's total score on all the theme items was taken as a base from which the proportionate value for each theme was determined. The ranking of these values then provided the low and high groups in each thematic category for correlational purposes. A similar procedure was followed with the time-emphasis items, the scores on each being computed relative to the total score of all three time reference categories. Two of the TAT categories, *Number of pictures liked* and *Speed of response*, yielded numerical scores which could be directly ranked.

### D. RESULTS OF CORRELATIONAL COMPARISONS

This section summarizes the results of the correlational comparisons between the categories of classification of the

TAT responses and the personality variables of the scale on which the subjects were rated after clinical study by the Experimenter. Each category was correlated with all of the personality variables. The complete results are presented in the original thesis (8) on which this report is based; here, only those correlations are listed which in ratio to their standard errors are above 2.00; out of the total of 2240 bi-serial correlations computed, 244 or 11% meet this criterion of reliability.

The conventional form of arrangement of the tabular data is followed, i.e., the direction of correlation is oriented from the high or extreme point of the stated category; for example, high *Fluency*, fast *Speed of response*, large *Number of questions asked*. Thus, Item 5 in Table 1 is interpreted to mean that the liberal use of *Interjections* in TAT responses correlates positively .47 with the personality trait, Happy temperament.

All comparisons in these tables are presented in positive terms by using the opposite of the bi-polar personality variables where the original correlation is negative. This follows from the fact that each personality variable was rated on a continuum; thus, the finding that expression of *Sadistic feeling* in the TAT correlates  $-.50$  with the personality trait Secure, in a continuum from Very secure to Very anxious, can be transposed with equal accuracy into a positive correlation with Anxious. The

latter form of statement is preferable; in the complete table (8, pp. 68-73), however, it was necessary to choose one point of reference, and correlations with the "favorable" or culturally approved direction of the traits were therefore stated as positive.

There is a special point in reporting the individual standard errors here. If these were product-moment correlations it would be unnecessary to include more than the standard error values for different sizes of correlations, since the number of cases is constant. With bi-serial correlations, however, the standard error is affected by differences in the proportion of high and low cases in the dichotomized variable. For most of the TAT categories the dichotomy was made near the median case, but some of the distributions required division at other points.

The tables themselves are self-explanatory and call for little specific comment. A cursive reading of the TAT categories and their related personality variables, together with reference to the size and standard error of the correlations, yields as meaningful a description as can be presented at this stage of treatment of the data. The grouping of TAT items into five tables is intended mainly for convenience in the comparison of related categories. In general, the first two tables deal with form characteristics and the final ones with content characteristics, although the logic of such a distinction is in many instances tenuous.



TABLE 1  
BI-SERIAL CORRELATIONS BETWEEN *Modes of Response to TAT* AND  
CLINICALLY RATED PERSONALITY VARIABLES OF 35 CASES

Mode of Response to TAT	Correlated Personality Variable	r	S.E.
1. Fluency	Popular	.60	.15
	Prefers group recreation	.58	.16
	Many recreation interests	.51	.17
	Feels superior	.48	.17
	Extroverted	.47	.18
	Fluent	.46	.18
	Mature personality	.43	.18
	Prefers active recreation	.43	.18
	Happy temperament	.41	.18
	Good total adjustment	.40	.19
	Good behavior prognosis	.40	.19
	Strong attachment to mother	.38	.19
2. Speed of response	Feels secure	.40	.18
3. Compliance with directions	Exaggerated sex activity	.59	.15
	Fluent	.50	.17
	Strong appearance	.45	.18
	Mature personality	.38	.19
4. Number of questions asked	Self-conscious	.52	.18
	Strong attachment to father	.50	.19
5. Interjections	Happy temperament	.47	.18
	Conflicted sex adjustment	.43	.19
	Compliant with adults	.42	.19
6. Picture criticism	Poor behavior prognosis	.56	.16
	Anti-social standards	.40	.19
	Self-conscious	.39	.19
	Untidy appearance	.38	.19
7. Degree of self-reference	Emotionally deprived	.45	.19
	Self-conscious	.44	.19
	Handsome appearance	.43	.19
8. Certainty of response	Poised	.46	.18
9. Number of pictures liked	Mature personality	.47	.18
	Feels superior	.40	.19
	Good total adjustment	.40	.19
10. Disjointedness of response	Unconflicted sex adjustment	.49	.17
11. Stereotypy	Dull intelligence	.39	.19
	Good behavior prognosis	.39	.19
	Unconflicted sex adjustment	.38	.18
12. Clear story outcome stated	Good total adjustment	.42	.19
	Fluent	.40	.19

TABLE 2  
BI-SERIAL CORRELATIONS BETWEEN *Formal Response Characteristics of TAT* AND CLINICALLY RATED PERSONALITY VARIABLES OF 35 CASES

Formal Response Characteristic of TAT	Correlated Personality Variable	<i>r</i>	S.E.
1. Emphasis on past time	No nervous symptoms	.50	.17
	Good behavior prognosis	.47	.17
	Perceives home as pleasant	.46	.18
	Realistic	.46	.18
	Stable emotionally	.42	.18
	Close attachment to mother	.39	.19
2. Emphasis on present time	Rejects father	.59	.16
	Asthenic appearance	.50	.17
	Perceives home as unpleasant	.47	.18
3. Emphasis on future time	Feels superior	.54	.16
	Extroverted	.45	.18
	Popular	.43	.18
	Realistic	.42	.18
	Prefers group recreation	.39	.19
4. Vocabulary level	Fluent	.82	.10
	Many recreation interests	.72	.13
	Prefers active recreation	.66	.14
	Mature personality	.62	.15
	Energetic	.59	.15
	Friendly	.57	.16
	Bright	.54	.16
	Feels superior	.51	.17
	Happy temperament	.51	.17
	Ambitious	.50	.17
	Prefers group recreation	.50	.17
	Popular	.49	.17
	Uninhibited	.44	.18
	Self-reliant	.42	.18
	Extroverted	.41	.18
5. Popular (vs. unusual) interpretations	Infantile personality	.57	.16
	Taciturn	.43	.18
	Autistic	.39	.19
6. Picture (vs. concept) dominated interpretations	Autistic	.43	.19
	Effeminate	.42	.19
7. Whole (vs. detail) emphasis	Perceives home as pleasant	.45	.19
	Masculine	.44	.19
	Feels superior	.40	.20
8. Extracceptive (vs. intracceptive) interpretation	Rejects mother	.47	.18
	Perceives home as unpleasant	.46	.18
	Many nervous symptoms	.44	.18
	Prefers solitary recreation	.43	.18
	Untidy appearance	.42	.18
	Emotionally deprived	.38	.19
9. High action level	Good behavior prognosis	.45	.18
10. Conflict issues attacked (vs. evaded)	Prefers group recreation	.55	.17
	Many recreation interests	.52	.18
	Prefers active recreation	.51	.18
	Energetic	.50	.18
	Bright	.49	.18
	Popular	.46	.18
	Extroverted	.45	.19
	Feels superior	.43	.19

(Continued on page 13)

TABLE 2—*Continued*

Formal Response Characteristic of TAT	Correlated Personality Variable	<i>r</i>	S.E.
11. Peculiar content	Ambitious	.50	.17
	Ugly appearance	.41	.18
12. Rare details observed	Asthenic appearance	.43	.18
	Autistic	.43	.18
	Effeminate	.42	.18
13. Perceptual distortion	Asthenic appearance	.56	.17
	Weak appearance	.53	.17
	Unambitious	.44	.19
	Many nervous symptoms	.41	.19
	Autistic	.39	.20

TABLE 3  
BI-SERIAL CORRELATIONS BETWEEN Themes Emphasized in TAT Responses AND  
CLINICALLY RATED PERSONALITY VARIABLES OF 35 CASES

Theme Emphasized in TAT	Correlated Personality Variable	<i>r</i>	S.E.
1. Achievement	Extroverted	.77	.11
	Prefers group recreation	.68	.13
	Popular	.62	.15
	Prefers active recreation	.57	.16
	Happy temperament	.54	.16
	Compliant with adults	.52	.16
	Close attachment to father	.52	.18
	Feels superior	.50	.17
	Many recreation interests	.44	.18
	Energetic	.42	.18
	Emotionally satisfied	.41	.18
	No nervous symptoms	.40	.18
	Conventional standards	.38	.19
2. Frustration	Poor total adjustment	.74	.12
	Emotionally deprived	.44	.18
	Unconflicted sex adjustment	.40	.18
	Bright	.38	.19
	Retarded sex activity	.38	.19
3. Aggression	Self-conscious	.50	.17
4. Anxiety	Satisfied materially	.56	.16
	Lacks energy	.55	.16
	Passive	.45	.18
	Neat appearance	.45	.18
	Dull intelligence	.42	.18
	Dependent	.39	.19
5. Conflict	Neat appearance	.61	.16
	Energetic	.46	.19
	Handsome appearance	.43	.19
6. Punishment	Infantile personality	.53	.18
	Effeminate	.51	.18
	Asthenic	.45	.19
7. Giving aid	(No significant correlations)		
8. Receiving aid	Prefers group recreation	.61	.15
	Extroverted	.60	.15
	Popular	.53	.16
	Prefers active recreation	.52	.17
	Bright	.50	.17
	Uninhibited	.46	.18
	Energetic	.41	.18
	Self-reliant	.39	.19
	Aggressive	.39	.19
9. Escape	(No significant correlations)		
10. Sensory gratification	Unambitious	.46	.18
11. Passivity	Rejects father	.50	.18
	Lacks energy	.38	.19



TABLE 4

BI-SERIAL CORRELATIONS BETWEEN *Feeling Qualities Emphasized in TAT Responses* AND CLINICALLY RATED PERSONALITY VARIABLES OF 35 CASES

Feeling Quality Emphasized in TAT	Correlated Personality Variable	<i>r</i>	S.E.
1. Pleasant feeling-tone	Extroverted	.68	.14
	Popular	.66	.14
	Prefers group recreation	.65	.14
	No nervous symptoms	.51	.17
	Feels secure	.48	.17
	Prefers active recreation	.47	.18
	Strong appearance	.45	.18
	Happy temperament	.45	.18
	Passive	.45	.18
	Emotionally satisfied	.42	.18
	Feels superior	.40	.19
	Good total adjustment	.40	.19
	Poised	.38	.19
2. Aesthetic feeling expressed	Good prognosis	.67	.15
	Good total adjustment	.53	.18
	Conventional standards	.51	.18
	Reacts deliberately	.48	.19
	Close attachment to mother	.46	.19
	Satisfied emotionally	.45	.20
3. Paranoid feeling	Ambitious	.72	.14
	Unconflicted sex adjustment	.54	.18
	Many recreation interests	.50	.18
	Pyknic appearance	.44	.19
4. Guilt feeling	Fluent	.46	.18
	Ambitious	.46	.18
	Strong appearance	.45	.18
	Frank	.43	.18
	Friendly	.43	.18
	Autistic	.42	.18
5. Narcissistic feeling	Prefers active recreation	.64	.16
	Prefers group recreation	.64	.16
	Popular	.64	.17
	No nervous symptoms	.62	.17
	Many recreation interests	.61	.17
	Extroverted	.59	.18
	Good behavior prognosis	.53	.19
	Good total adjustment	.51	.19
	Energetic	.47	.20
	Realistic	.45	.20
6. Sadistic feeling	Conventional standards	.59	.17
	Weak appearance	.54	.18
	Anxious	.50	.19
	Prefers sedentary recreation	.47	.19
	Close attachment to mother	.46	.19
	Good behavior prognosis	.46	.19
	Many nervous symptoms	.46	.19
	Dull intelligence	.42	.20
	Lacks energy	.40	.20
7. Inferiority feeling	Masculine	.48	.17
	Handsome appearance	.47	.17
	Fluent	.46	.18
	Bright	.41	.18

(Continued on page 16)

TABLE 4—Continued

Feeling Quality Emphasized in TAT	Correlated Personality Variable	<i>r</i>	S.E.
8. Ambivalence	Self-conscious	.52	.17
	Energetic	.48	.17
	Good total adjustment	.47	.18
	Handsome appearance	.38	.19
9. Environment described as benign	Extroverted	.48	.17
	Good total adjustment	.46	.18
	Stable emotionally	.42	.18
	Realistic	.38	.19
10. Concordant interpersonal relationships	Unambitious	.48	.17
	Poised	.41	.18
	Realistic	.40	.18
11. Strong interpersonal relationships	Bright	.65	.14
	Fluent	.60	.15
	Energetic	.56	.16
	Masculine	.48	.17
	Mature	.46	.18
	Handsome appearance	.43	.18
	Deprived materially	.41	.18
	Prefers active recreation	.40	.18
	Emotionally deprived	.38	.19
12. High feminine identification	Impulsive	.47	.18
	Asthenic appearance	.43	.18
	Poor total adjustment	.41	.18
	Many nervous symptoms	.40	.18
	Feels inferior	.40	.18
	Self-conscious	.39	.19

TABLE 5  
BI-SERIAL CORRELATIONS BETWEEN *Topics Emphasized in TAT Responses* AND  
CLINICALLY RATED PERSONALITY VARIABLES OF 35 CASES

Topic Emphasized in TAT	Correlated Personality Variable	<i>r</i>	S.E.
1. Age of characters	Exaggerated sex activity	.53	.16
	Emotionally satisfied	.47	.17
	Prefers group recreation	.42	.18
	Close attachment to mother	.42	.18
2. Newness or age of objects	Uninhibited	.45	.18
3. Neatness or order	Bright	.44	.18
	Prefers active recreation	.43	.18
	Fluent	.39	.19
4. Light or dark features of picture	Easily frustrated	.52	.17
	Self-reliant	.46	.18
	Autistic	.45	.18
	Unstable emotionally	.40	.19
5. Book or movie as story source	Feels superior	.43	.19
	Many recreation interests	.41	.19
6. Suicide	Self-conscious	.50	.19
	Strong appearance	.44	.20
	Energetic	.42	.20
7. Sex activity	Friendly	.47	.19
	Stable emotionally	.44	.20
	Frank	.43	.20
8. Male dress or appearance noted	Autistic	.52	.18
	Effeminate	.47	.19

#### IV. RESULTS OF INTERPRETING THE TAT BY BLIND ANALYSIS

**T**HE methods and results of the blind analysis interpretation of the TAT are here described. The thirty-five TAT protocols were submitted to an independent observer (Dr. William E. Henry) who had no knowledge of the individual subjects. He was, however, aware of the general facts about the group—sex, race, and intelligence range—inasmuch as he had been consulted during the study. The TAT records in each case consisted of two to four type-written pages containing: (a) the subject's verbatim responses during the administration of the TAT; (b) his selection of pictures liked or disliked, with the reasons for choice of the two most liked and the two most disliked; (c) time notations for initial reaction, pauses during response, and total time for each picture. The only information on the record concerning the subject was his age. No description of behavior during the test was included nor subsequent inquiry as to sources of stories.

On the basis of these protocols alone the TAT-Interpreter undertook to rate each subject on thirty-four personality variables of the rating scale. Judgments of the sections on Appearance and Response During Interview, and the item on Sibling relationships were not attempted. The rating judgments of each trait were converted to quantitative scores along a ten point scale and were then compared with the rating judgments of the Experimenter and the Psychiatrist on the same subjects.

Table 6 presents the correlations between the ratings of the three observers. The first column of comparisons between Experimenter and Psychiatrist may be taken as a practical base line of

the maximum correlations to be expected from these data when ratings are based upon actual examination of the subjects. The TAT-Interpreter's correlations with both the Experimenter and the Psychiatrist are seen to be predominantly positive and, on the whole, significantly above chance expectancy. It may also be noted that the two series of TAT comparisons tend to agree with each other consistently in the size and direction of correlation, the average difference in correlation for the series being eleven points.

Those personality variables which, judging from the size of the correlations, are most accurately predicted by the blind analysis interpretation are:

Fluent—Taciturn  
Material needs: Feels satisfied—Deprived  
Mature—Infantile  
Relation to peers: Popular—Disliked  
Sex activity: Retarded—Exaggerated  
Dull—Bright  
Sex adjustment: Conflicted—Unconflicted  
Home atmosphere: Pleasant—Unpleasant

The personality variables showing lowest correlations between the blind analysis and the ratings of the two clinic examiners are:

Stable—Unstable  
Recreation: Sedentary—Active  
Recreation: Solitary—Group  
Goals and ambition: Ambitious—Drifter  
Inhibited—Uninhibited  
Moral standards: Conventional—Unconventional  
Introverted—Extroverted  
Recreation interests: Many—Few

It may also be observed that some personality variables, such as Material needs: Feels satisfied—Deprived and Sex activity: Retarded—Exaggerated, which are predicted relatively well by the TAT blind analysis, were poorly predicted by

TABLE 6  
CORRELATIONS BETWEEN RATINGS BY TAT-INTERPRETER, EXPERIMENTER, AND  
PSYCHIATRIST ON SINGLE PERSONALITY VARIABLES OF 35 CASES

Personality Variable	Correlations Between Raters		
	Exper. and Psychi.	TAT-I and Exper.	TAT-I and Psychi.
Dull—Bright	.53	.39	.30
Fluent—Taciturn	.49	.47	.39
Feminine—Masculine	.32	-.02	.15
Energetic—Apathetic	.51	.23	.32
Aggressive—Passive	.43	.08	.05
Depressed—Happy	.55	.22	.28
Mature—Infantile	.41	.41	.31
Inhibited—Uninhibited	.15	.00	-.06
Stable—Unstable	.45	-.23	-.07
Anxious—Secure	.27	.19	-.12
Introverted—Extroverted	.20	.00	.05
Deliberate—Impulsive	.33	-.08	.15
Self-reliant—Dependent	.32	.29	.32
Realistic—Autistic	.16	.22	.31
Feels inferior—Feels superior	.02	.15	.17
Easily frustrated—Not easily frustrated	.47	.01	.21
Home atmosphere: Pleasant—Unpleasant	.46	.46	.21
Relation to father: Attachment—Rejection	.53	.13	-.02
Relation to mother: Attachment—Rejection	.49	.18	.30
Relation to adults: Defiant—Compliant	.52	.36	.17
Relation to peers: Popular—Disliked	.51	.38	.32
School adjustment: Good—Poor	.43	.13	.20
Material Needs: Feels satisfied—Deprived	.25	.46	.35
Emotional Needs: Feels satisfied—Deprived	.51	.14	.36
Recreation: Sedentary—Active	.47	-.19	-.06
Recreation: Solitary—Group	.60	-.07	-.13
Recreation interests: Many—Few	.19	.13	-.07
Moral standards: Conventional—Anti-social	.46	-.03	-.02
Sex adjustment: Conflicted—Unconflicted	.13	.38	.30
Sex activity: Retarded—Exaggerated	.69	.36	.34
Nervous symptoms: Many—None	.21	.19	.38
Goals and ambition: Ambitious—Drifter	.20	-.01	-.06
Total Personality adjustment: Good—Poor	.31	.07	.06
Prognosis: Poor—Good	.54	.15	.10
Median <i>r</i>	.44	.15	.17
No. of <i>r</i> 's significant at 1% level ( <i>r</i> = .43)	19	3	0
No. of <i>r</i> 's significant at 5% level ( <i>r</i> = .33)	21	9	5

the TAT category analysis. On the other hand, the following personality variables which were low in the blind analysis interpretation, showed high correlations in the TAT category comparisons:

Introverted—Extroverted  
Recreation: Sedentary—Active  
Recreation: Solitary—Group  
Total personality adjustment: Good—Poor

The original distributions of rating

scores of each observer have not been reported in detail. Some indication of the gross rating tendencies may be of value. On a ten point scale, with zero as the point of origin, the average of the ratings on separate personality variables by Experimenter, Psychiatrist, and TAT-Interpreter was respectively: 4.72, 4.80, and 4.74. The corresponding standard deviations of the separate rating scores



averaged 2.04, 1.57, and 1.36.

Table 7 lists the intra-individual correlations for the thirty-five subjects. In the preceding table, comparisons were made between the ratings by the three observers on each personality variable for all thirty-five cases. In Table 7 the

comparison is between the ratings by the three observers on all of the personality variables (mutually rated) for each subject; for example, the ratings of the Experimenter and Psychiatrist on thirty-four personality variables for Subject 1 yielded a correlation of .71.

TABLE 7  
CORRELATIONS BETWEEN RATINGS BY TAT-INTERPRETER, EXPERIMENTER, AND  
PSYCHIATRIST ON 34 PERSONALITY VARIABLES IN SINGLE  
INTRA-INDIVIDUALLY COMPARED CASES

Clinic Case Number	Correlations Between Raters		
	Exper. and Psychi.	TAT-I. and Exper.	TAT-I. and Psychi.
1	.71	.40	.50
2	.39	.49	.43
3	.27	.28	.03
4	.52	-.01	.28
5	.14	-.13	.41
6	.52	.35	.40
7	.29	.52	.56
8	.34	.21	.38
9	.11	-.30	.41
10	.19	.24	.50
11	.27	.13	.60
12	.09	-.14	.50
13	.58	.13	.00
14	.58	.04	-.07
15	.36	.27	.14
16	.17	.52	-.02
17	.30	.35	.02
18	.77	.36	.57
19	.17	.08	-.10
20	-.12	-.07	.05
21	.01	.24	.25
22	.02	.01	.17
23	.52	-.03	-.03
24	.50	.33	.30
25	.12	-.32	.37
26	.55	-.11	-.01
27	.53	-.25	.05
28	.70	.19	.28
29	.79	.69	.70
30	.59	-.51	-.26
31	.55	.16	.40
32	.60	.34	.44
33	.29	.02	.08
34	.59	.41	-.05
35	.62	.43	.27
Median <i>r</i>	+.39	+.19	+.28
No. of <i>r</i> 's significant at 1% level ( <i>r</i> = .44)	17	4	8
No. of <i>r</i> 's significant at 5% level ( <i>r</i> = .34)	20	11	15

The data of Table 7 are presented with some reservations as to their precise interpretation. Stephenson (27) has described what he calls the Q-technique for correlating persons rather than tests, in which traits comprise the "population," and the persons comprise the correlated variables. In this table the personality traits constitute the population and each subject is correlated with himself as rated on these traits by the different observers.

This procedure can be treated simply as a means for determining an index of association in two sets of comparable observations, without claiming significance for it as a product-moment corre-

lation method. Considered thus, the data of Table 7 may be interpreted to express the relative accuracy of the TAT in judging the entire series of personality variables on each case. Thus, the number of positively correlated cases, i.e., series of personality variables, is twenty-five as between TAT-Interpreter and Experimenter, twenty-eight as between TAT-Interpreter and Psychiatrist, and thirty-four as between Experimenter and Psychiatrist; the respective median correlations for all thirty-five cases are .19, .28, and .39. Correlations between TAT-Interpreter and Psychiatrist in twelve cases exceed those of the Experimenter and the Psychiatrist.

## V. INTERPRETATION AND DISCUSSION

### A. THE PERSONALITY CRITERION

THE criterion of personality employed here is founded upon the clinic case-study, comprising the psychological and psychiatric examinations and the social history materials. In their original form, case-records provide very unwieldy research data. It was necessary to devise some method for summarizing, objectifying, and quantifying the personality descriptions of the different examiners. The rating scale technique appeared to serve this purpose most effectively.

Cattell vividly compares rating observations to a "... builder's scaffolding, marking out the main patterns of personality in a preliminary fashion" (5, p. 134). The question as to which patterns are fundamental to the description of personality must be decided beforehand in selecting any series of rating items. In our scale the variables were chosen empirically from among the terms most commonly used in the clinic, and from those most frequently employed in the literature on personality testing. Rogers' discussion of the requirements for a satisfactory diagnostic analysis of personality (22, pp. 16-60) provided a useful guide in the construction of the scale. The aim was to select those variables which would best sample the "universe" of personality as clinically described.

The criticism is often made that rating observations deal only with isolated factors and that they neglect the dynamic and configurational aspects of personality structure. All personality descriptions, however, involve some degree of abstraction; the level that can be dealt with experimentally is necessarily more stringent than that of ordinary clinical

communication. Moreover, it cannot be assumed that terms such as "aggression" or "stability" are simple traits. These, as well as most of the other variables of the rating scale, cover a wide range of behavior and can be evaluated only by considering the personality as a whole. For experimental purposes the terms are treated as though they are unitary.

There is another aspect of the question which concerns evaluation of the TAT by the rating scale method. It is maintained that the essential contribution of the TAT lies in disclosing covert personality structure. Trait descriptions, however, deal with what is sometimes referred to as the "surface" of personality. Here again the distinction is mainly one of degree; the rating of personality traits is based upon a diagnosis which takes into account not only the inter-relationships between traits, but also their overt or covert manifestations. This does not imply that the rating method is suitable for describing more subtle or dynamic expressions of personality; the clinical goal of diagnosing individual personality as a whole can only be approximated. It may be assumed, however, that if the TAT is found to yield valid results in the description of relatively isolated traits its claims for validity in the wider areas of individual diagnosis are thereby given greater credence.

Attention has also been called to the low reliability of judges' ratings, .55 representing the typical reliability coefficient for rating personality traits by ordinary judgment methods. Nevertheless, as Cattell points out, the assessment of traits by skilled judges constitutes at present the best source of data in this



field (5, p. 134). One measure of the reliability of our variables is afforded by the comparison of judges' ratings in Table 6 (*vide* Ch. IV).

Pertinent in this respect is the observation that in the evaluation of personality two judges may show low reliability with each other but high validity with some criterion, the reason being that both judges are viewing personality from different aspects. Indirect evidence to that effect is yielded by the results of both the category analysis and the blind interpretation. Uniformly high correlations were obtained in some instances for variables upon which agreement between Experimenter and Psychiatrist was low. The consistency and statistical significance of the results as a whole are also presumptive evidence of the reliability of the variables making up the personality criterion.

#### B. THE ANALYSIS AND SCORING OF THE TAT

The procedure of TAT analysis outlined in Chapter IV was planned to achieve a comprehensive and quantitative description of TAT responses without involving inferences as to the significance of these descriptions for personality. Murray's general approach was borrowed, but not his specific method of analysis. In interpreting a TAT story Murray asks these questions: What needs does the hero of the story express? What environmental forces press or influence him? How does he resolve the situation? In our analysis the inquiry is limited simply to the question: What is said or done? Attributes of the language, form, and content of the responses are noted. No attempt is made to identify the hero of the story or to determine whether a given incident represents a press or a

need. Themes are interpreted directly; for example, scores on the theme *Anxiety* are based solely upon expressions of anxiety in the content of the stories, and not upon inferences from such form characteristics as hesitation, picture rejection, or uncertainty of response.

Murray's system of analysis of the TAT is based on a theory of personality, the assumptions being that the attributes of the hero represent tendencies in the subject's personality, and that the press variables represent forces in his apperceived environment (17, p. 14). We tried to avoid all a priori assumptions about the categories used in classifying the TAT responses. It appeared to us also that a quantitative system of analysis requires greater uniformity in the administration of the test. Morgan and Murray point out as one of the advantages of the TAT "... that it may be performed in a casual and informal fashion" (16, p. 305). The examiner is advised to use encouragement, prompting, inquiry, and even interruption where the response is long and rambling. With this degree of leeway it is difficult to establish a common quantitative basis for comparing records obtained from different subjects or by different examiners. For research purposes at least, the framework of test administration must be more clearly fixed. Methods for securing rapport can be adapted to this framework just as they are to the clinical administration of the Stanford-Binet or to any interpersonal experimental procedure.

Another flaw in Murray's system of quantification lies in the rationale of his method for determining standard scores of the press-need variables. In order to equate for different lengths of stories the total score on each variable is multiplied by a constant factor based upon the average number of words per story (17, p. 9). This is reminiscent of the procedure on the Monroe Diagnostic Reading Test; the number of words read in each sub-test is taken as a proportion of five hundred, and a standard score is then obtained for the number of errors. In a reading error analysis words are the basic elements, but where ideas are involved, words may no longer be a logical unit to employ. Murray's method implies a questionable equivalence of word elements as carriers of meaning. Factorial studies have demonstrated that word fluency and ideational fluency are separate factors in language facility (30).

The method of TAT analysis chosen here differs also from ordinary clinic

procedure in that each story is considered in isolation rather than as part of the total protocol of a subject. It would of course be possible and in fact much less arduous a task to obtain quantitative scores on our categories by reviewing each TAT record as a whole. Such a procedure would, however, introduce a number of questionable considerations: first, the possibility of identification of whole TAT records becomes an experimental hazard which is obviated by viewing the 630 responses separately; second, in the clinical method the interpretation is in the nature of a "gestalt," the contributing elements of which are inseparable. To achieve our standards of objectivity it was necessary to eliminate from the analysis the influence of context or suggestion from one story to another, and also the probability that such influences would carry over from the scoring of one TAT category to the next if the basis for judgment were the complete protocol.

Our method of analysis has much in common with a system recently proposed by Wyatt (34). His aims too were to select those form and content categories which appeared most applicable, and to stress a sharper division between analysis and interpretation of the TAT. As a simplified form for clinical analysis he presents fifteen variables, including not only Murray's themes, but classifications such as Tone of Story (described by twelve qualities), Level of Interpretation (seven levels), Strivings and Avoidances, and Qualities of Telling (eleven forms). Wyatt does little, however, to explain his method of applying this quite elaborate outline, other than to suggest the advisability of "a certain amount of numerical scoring."

A detailed discussion of the separate TAT categories would be a project in itself. It is evident that these categories vary in precision, in degree of interpretation required, and in universality of

application to the various types of TAT stories. Considerable data is now available pointing to the high reliability of ratings of form and content characteristics (31, pp. 4-6).

Other evidence can be cited to support the assumption of reliability of the categories used here. The relative simplicity of definition and of interpretation, as compared to the press-need categories for example, would make for more accurate analysis. Certain items such as *Number of pictures liked* or *Response time* are simply counts of quantitative data. The rating of the category *Fluency* yielded practically identical results with that of the actual count of *Number of words*. Finally, the general consistency and plausibility of the results and the fact of high correlations argues for the reliability of the data upon which they are based.

### C. THE CORRELATIONAL COMPARISONS

To provide some perspective of the results a descriptive statement of the areas of possible diagnostic significance in the TAT is presented. These general observations may aid in evaluating the data, since it is beyond the scope of the present investigation to discuss the individual correlation comparisons. A total of 2240 bi-serial correlations between TAT response categories and personality variables was computed. Based on this figure alone it would be expected that chance factors would yield 112 correlations significantly different from zero at a 5% level, and twenty-two correlations significant at a 1% level. The validity of a gross view of the computations is, however, doubtful since not all of the TAT categories were used in the final comparisons. The categories eliminated

included some that would probably have yielded low correlations with the personality criteria, as well as some (*Number of words per record*, *Thematic richness*) that were known to be highly correlated with the personality variables.

A more valid basis for taking account of the chance factors in these correlational comparisons would be to consider the TAT categories separately. In each series of correlations between a given category and the forty personality variables, two correlations might be expected by chance to reach a 5% level of significance, and none to reach the 1% level. In determining the correlation coefficients corresponding to these levels of significance for our data it is necessary to obtain the standard error of biserial  $r$  for the null hypothesis (19, p. 389). With thirty-five cases, dichotomized at the median of the distribution, this standard error equals .212. Basing the 5% and 1% levels of significance upon  $t$ -ratios of 2.04 and 2.74, the required correlation coefficients are therefore .43 and .58.

Aside from the question of statistical probabilities the most important consideration in assaying these results is that of their consistency and logic from the point of view of personality dynamics. The problem presents varied aspects: (a) the reasonableness and plausibility of the association between each personality variable and TAT category; (b) the consistency between all of the personality variables associated with a given TAT category; and (c) the consistency between all of the TAT categories significantly correlated with each personality trait.

It should be pointed out that only a tentative statement can be made as to the plausibility of the individual compari-

sons. Attention can be called to some of the direct correlations between cognate terms: the TAT category *Fluency* with the personality trait *Fluent* (.46); *Degree of self-reference* with *Self-conscious* (.44); *Pleasant feeling-tone* with *Happy temperament* (.45); *Vocabulary level* and *Fluent* (.82); *Theme emphasis—Passivity* and *Lacks energy* (.38). Other comparisons less obvious but equally credible are: *Certainty of response* and *Poised* (.46); *Stereotypy* and *Dull intelligence* (.39); *Conflict issues attacked* and *Energetic* (.50). Or, to cite some of the less apparent relationships for which evidence can be adduced from other sources: *High feminine identification* and *Impulsive* (.47); *Rare details noted* and *Autistic* (.43); *Theme emphasis—Sensory gratification* and *Unambitious* (.46); and *Sadistic feeling* and *Rigid conventional standards* (.59).

The dangers of a posteriori reasoning and the dramatic instance are amply illustrated. One could readily quote examples of inconsistent or contradictory correlations. Ackerson points out that the advantage of expressing relationships by correlation coefficients lies not only in their precise, quantitative form, but also in the fact that in computing correlations "... the weight of contrary instances are not so likely to be overlooked as in the subjective observations arising out of clinical experience" (1, p. 66). But it is also possible that contrary instances may be neglected in the interpretation of the correlations themselves, particularly where a sizable number is being evaluated.

Another consideration in connection with cognate correlations is the theory that some personality traits are expressed in fantasy by directly opposed themes.

This might account for the findings on the TAT categories: *Inferiority feeling*, *Paranoid feeling*, *Theme emphasis—Receiving aid*, and *Ambivalence*. Actually, few clearly antithetical relationships may be noted in the data; the results tend rather to indicate that characteristics of TAT responses can be translated directly into descriptions of overt behavior.

An entirely different logical problem is presented in evaluating the consistency between the personality variables correlated with each TAT category. Here the inter-relationship between items can be scrutinized without special reference to the TAT. The principal points to bear in mind are, first, that the personality variables may be either favorable or unfavorable as these evaluations are commonly made; and second, that they may be either related or discrepant in nature. We would expect, for example, to find the trait Anxious mentioned along with Unhappy rather than with Happy temperament; or Extroverted along with Popular rather than with Unpopular. Where the combination of variables is complex a knowledge of psychodynamics is required to weigh between possible chance correlations and those which are possibly meaningful.

A review of the data from that point of view reveals a very high degree of consistency. With few exceptions the variables associated with each TAT category are similar, related in nature, or at least not discordant. This holds true even where the traits themselves all seem discrepant with the TAT category; the concordant items Masculine, Handsome appearance, Fluent, and Bright are all, for example, highly correlated with the TAT response category *Inferiority feeling*. Many of the more conflicting combinations of traits can be individually

explained; thus Self-conscious, Handsome appearance, and Deprived emotionally can all be plausibly related to different aspects of the TAT category *Degree of self-reference*; the item Unconflicted sex adjustment in a group of otherwise unfavorable variables associated with the theme of *Frustration* is seen to be a plausible reflection of the variable, Retarded sex activity. Certain pairs or clusters of traits appear repeatedly in association with different TAT categories; for example, Fluent and Bright; Autistic and Effeminate; Popular, Extroverted, and Prefers group recreation.

Another way to gauge the internal logic of the data is to note the consistency of the TAT categories grouped together in correlation with each personality trait. This, it may be remarked, is the obverse view of Tables 1 through 5, which are presented in terms of the grouping of personality traits correlated with each TAT category. The following categories, for example, correlate highly with the personality trait Happy temperament: *Fluency*, *Interjections*, *High Vocabulary level*, *Conflict issues attacked*, *Theme emphasis—Achievement*, and *Pleasant feeling tone*. A related personality variable, Emotionally satisfied, correlates positively with the TAT categories *Pleasant feeling tone*, *Aesthetic feeling*, *Reference to age*, and *Theme emphasis—Achievement*; it correlates negatively with *Self-reference*, *Extracceptive interpretation*, *Strong interpersonal relationships*, and *Theme emphasis—Frustration*. Here again it can be stated only as a strong impression that consistency is the rule in the data and that, in general, items which would from practical or clinical experience be considered related are in fact grouped



together in these comparisons.

Although the consistency of the data has been discussed with reference to the tables in the text, the same general observations hold for the complete table of bi-serial correlational comparisons (8, pp. 68-73). Particularly, those correlations between .20 and .38, which are in the doubtful range of significance, show a definite pattern of relationship to the higher correlations in the series of which they are part. This trend can also be quantitatively described in terms of the number of positive or negative correlations for each TAT category. In the categories *Fluency*, *Emphasis on past time*, *Whole interpretation*, and *Theme emphasis—Achievement*, the number of positive correlations (where the correlation is in the direction of favorable or normal personality traits) in each case is thirty-five or more out of the total of forty. In the categories *Picture dominated interpretation*, *Extraceptive interpretation*, *Perceptual distortion*, and *Theme emphasis—Punishment*, there are thirty-four or more negative (unfavorable) correlations in each series.

#### D. THE BLIND ANALYSIS INTERPRETATION

The use of blind analysis interpretation as a research method is widely accepted although its application in clinical practice is frequently condemned. The procedure was utilized in this experiment following the analogy of Rorschach who first introduced it in an attempt to diagnose from the records of his colleagues. "It was conceived," he writes, "that this constituted a test of the method, that is, the more correct the diagnoses, the better the method proved itself to be, even though no indication of age, sex, state of health,

presence of neurosis or psychosis accompanied the protocol" (23, p. 120). The rationale of blind analysis in TAT interpretation seems clear on the surface: by limiting the data to the bare test record and by omitting all information about the person tested complete objectivity is achieved. Our experience, however, suggests that the role of blind analysis as a scientific procedure is subject to several important qualifications.

As the term is now ordinarily understood, blind analysis refers to the interpretation of a projective production without knowledge about the subject other than the sex and age. In practice, however, considerable latitude is exercised by individual experimenters, the most frequent variation being the analysis of records by the same person who administered the examination; in fact, such "blind" diagnoses are the rule rather than the exception in clinical work. Many studies utilizing this procedure also include varying items of information other than the sex and age of the subjects. Precisely speaking the interpreter is always aware of more than these stated facts.

One can hardly conceive of a projective test record which does not bear a certain context of meaning, an implicit or acknowledged frame of reference regarding the subject. Even Rorschach knew that he was interpreting the records of patients, and he could probably have made some shrewd guesses about the kind of patients his friend Oberholzer was treating. It is usually assumed in fact that the interpreter is cognizant of the general cultural or racial grouping of the subjects. He knows that they are middle-class American whites, or Aloreses Islanders, or Southwest Plains Indians. Ordinarily he knows a great deal more if he is in the usual position of interpreting records obtained in some familiar situation such as a school, state hospital, or psychiatric clinic. In that circumstance the interpreter may possess a considerable fund of inferential knowledge regarding the usual types of cases examined, and the social, economic, and even personality differences likely to be encountered; where blind diagnoses are to be compared against the criterion of examinations by others, the interpreter may also have the advantage of familiarity with the local nomenclature and the diagnostic predilections of his colleagues.

A certain degree of incompatibility is suggested between experimental and clinical requirements in studies based

upon the blind analysis method. The "ordinary clinical conditions" under which the TAT is administered would play havoc with most experimental designs. It is only partially possible to standardize the administration to conform to research needs. To the extent that the TAT records are abstracted from the dynamic test situation,—including observation of the subject's behavior, a more or less flexible inquiry, and a review of the responses in the light of the case-history,—to that extent the usual clinical picture is distorted. On the other hand, to retain these elements of the examination introduces variables which are difficult or impossible to control. If behavior notes, for example, were to be included as part of the TAT records, the results of the blind analysis interpretation would be affected to an unknown degree by the clinical acuity of the TAT administrator.

Our procedure was designed to reconcile as far as possible these divergencies between sound experimental practice and the loosely defined requirements for valid TAT administration. We attempted to hold to the spirit of Murray's procedure while maintaining at the same time a uniformity at least as rigorous as that of Stanford-Binet testing. Clinical observations of behavior during the examination were not included in the records, nor was the inquiry as to sources of the stories. One methodological difficulty which could not be avoided arose from the nature of the blind analysis procedure itself. The Experimenter and the Psychiatrist had worked together over a number of years, and it may be presumed that they coincided more closely with each other than with the third rater in their definitions of the personality variables. The lower correla-

tions obtained in the blind analysis interpretation may reflect, therefore, a semantic artifact rather than the differential validity of the TAT analysis.

#### E. THEORETICAL AND PRACTICAL IMPLICATIONS

This study was originally conceived as a kind of minor "exploration in personality" patterned after Murray but with specific reference to the use and significance of the TAT. It soon became clear that a more analytical and statistically oriented framework was necessary for experimental purposes. A formal and categorical analysis of the TAT was therefore utilized rather than Murray's press-need method or the various other qualitative approaches described in the literature. The correlating of each category with a wide range of standard personality classifications yields a "cross-section" of personality structure as viewed through the TAT. The fact that these cross-sections are consistent on the whole with clinical knowledge of personality dynamics is evidence for the validity of the analysis. At the present stage of treatment, however, the data bear only indirectly on the wider problem of the nature of personality organization.

The quantitative results bring out two general points significant for the theory of personality: first, that *the TAT reflects personality in a constant and therefore measurable fashion*; and second, that *relatively simple and objective components of TAT responses are significantly linked with personality characteristics*. The first point is important with reference to the controversy on the inter-relationship of overt and covert personality manifestations. To what extent can actual behavior be predicted

on the basis of fantasy production? Symonds calls attention to the divergencies in prediction and asserts that "it is not possible to estimate overt personality characteristics or life history material with any degree of certainty from picture-story material" (29, p. 289). He maintains that individuals who react to conflicts by symptomatic behavior have no need to express them in fantasy; since it is only the repressed conflicts that are represented in the TAT, analysis of TAT content has value principally in revealing these underlying dynamic trends rather than actual behavior.

Murray places even more stress than Symonds on the different levels of personality expression (although he attributes a much broader role to the TAT as a diagnostic method). The present findings indicate on the whole a constant and direct relationship between response on the TAT and overt behavior. That the contrary has so often been noted may, at least partly, be a function of the conceptual framework used to interpret both the TAT and personality. The identification of a given need structure as being either overt or covert simply reflects the point of view of the observer or even the accuracy of his observation. A clinical illustration will make this clear. An individual whose outward behavior is extremely mild and passive may, even upon superficial examination, be found to harbor strong suppressed aggressive needs; if he expresses these needs in a projective test it is wholly a question of how his basic personality is defined that determines whether the relationship is considered to be direct or indirect.

The fact that simple components of the TAT are found here to be significantly related to personality brings up the issue of the intuitive

versus the analytic approach to diagnosis. Fundamentally the argument is the ancient one of the validity of analysis as a psychological method; as applied to projective test interpretation it is usually stated as a criticism of abstracting or separating test components, on the basis that to do so distorts the dynamic and inter-related pattern of personality. The argument is to some extent irrefutable and has tended to cast a mystical aura on the process of evaluating projective records. Possibly it is true that the trained and intuitive judge has no need for the cues implied in knowing the personality correlates of specific elements of response. Nevertheless the student of personality, as Allport suggests (2, p. 547), may greatly improve his understanding by knowledge of these significant details.

Murray divides psychologists into two groups according to their conceptual position on the fundamental variables of personality: (a) peripheralists, who are described as elementaristic, objectivistic, concerned with clearly observable data statistically examined, and (b) centralists, who are totalists, subjectivists, taken up with dynamic interpretation of inner forces. The present study falls clearly into the first of Murray's two groups, but the centralists' position could just as readily be stressed by qualitatively studying the TAT records in the light of all available clinical material on the individual cases. Our main concern has been to view the separate findings as reflected in the correlational comparisons. Beyond this, however, lies an area of more dynamic research possibilities.

Perhaps the most immediate task is to reduce the large number of classifications employed to some more wieldy and unified form. It is evident from the complete statistical table (8, pp. 68-73) that many of the variables are closely inter-related. Pairs of personality characteristics such as Extroverted and Popular, Bright and Fluent, and Autistic and Effeminate are found linked together in many different contexts. Similar groupings of TAT categories may be noted; for example, *Theme emphasis—Achievement* and *Pleasantness of feeling-tone* are both consistently correlated over .60 with all of the following variables: Extroverted, Popular with peers, and Prefers group recreation. *Vocabulary level* and *Fluency* on the TAT also

parallel each other so closely statistically as to be almost co-terminous. A detailed analysis of the data to isolate these groupings or factors might yield a more effective and parsimonious description of both the personality sphere and the TAT productions.

The separate correlational groupings suggest numerous problems for detailed investigation. What, for instance, accounts for the high correlation (.72) between the personality variable *Ambitious*, as clinically evaluated, and *Paranoid feeling* in the TAT?—or for the negative correlations between *Ambitious* and the categories *Concordant interpersonal relationships*, *Perceptual distortion*, and *Theme emphasis—Sensory gratification*? What generalizations can be tested from the findings on the significance of different time emphases on the TAT? Would the relationship between *Emphasis on present time* and unfavorable personality adjustment hold in other groups or in other types of thematic material? Under what conditions are favorable personality variables associated with unfavorable or unusual response patterns in the TAT?

More specific research problems could be proposed from those correlational groupings which appear clearly significant. To illustrate: a plausible hypothesis on the basis of these data is that the phenomenon of narcissism, or narcissistic feeling, is a component of normal adjustment rather than a regressionally characteristic as implied by psychoanalytic theory. Although the common usage of the term was followed here, the correlated personality variables were found to be very strongly favorable in nature. Whether that would hold true for more extreme expressions of narcissism than were sampled in our group

cannot be answered. Nevertheless there is reason to believe that an extensive examination of this phenomenon might lead to modification in the usual understanding of the concept.

The potentialities of the data on interpretation by blind analysis could also be more fully explored. The availability of both statistical and clinical records on these cases permits a number of useful inquiries into some of the problems involved in judging personality. It occurred to us, for example, to compare in two respects those subjects most successfully and least successfully predicted. An inspection of eight cases at either extreme indicated that the subjects most accurately gauged by the blind analysis are those in whom unfavorable personality traits are predominant. A review of the TAT records also revealed that the subjects most successfully judged were the least fluent in their TAT responses, which supports W. E. Henry's contention with reference to the validity of interpreting short TAT records (9, p. 16). Similar detailed comparisons with reference to other factors in the case records would do much to clarify the bases for inferences from the TAT. Some general problems in the evaluation of personality, such as the characteristics of "open" or "enigmatic" personalities (2, p. 507), could also be attacked through analysis of the judgments of the three raters.

In view of the great amount of research on the interpretation of formal scoring categories of the Rorschach it would be of considerable theoretical and practical interest to relate the experimental findings to the present results. To illustrate: the TAT category—*Light or dark features of picture*—corresponds to the Rorschach category—*chiaroscuro*, or shading responses. In the Rorschach this item is interpreted to reveal anxiety; in our findings the highest correlations for this category are with the personality varia-



bles Easily frustrated (.52), Self-reliant (.46), Autistic (.45), and Unstable emotionally (.40). The trend of the correlations, including that with Anxiety (.19), is in the same direction as the Rorschach interpretation. An extended comparison along these lines by a Rorschach expert might reveal some interesting correspondences. It might also contribute to an understanding of the principles underlying the projective techniques and personality theory in general if it could be shown, for example, that modes of perceiving stimuli, whether meaningful pictures or formless inkblots, bear a constant relationship to specified personality traits.

At the present stage of development of the TAT, clinic and research interests are closely allied. In both areas applications might be made of the normative data, the suggestions for uniformity of TAT procedures, and the correlational findings of this study. An exploratory investigation should have the effect of focalizing clinic practice as well as research efforts by pointing out those components of the TAT which promise to be most rewarding to further attention.

One of the most useful approaches to psychodiagnostic data is to consider the extent to which they permit differentiation between levels of adjustment, without specifying the particular traits involved. The individual TAT categories were analyzed from this point of view by considering their correlations with either favorable or unfavorable personality variables, taking into account the size and significance of the coefficient and the logical consistency of each set of data. The following list indicates, in approximate order of significance, those TAT categories which were found to be most clearly associated with favorable personality traits and good adjustment:

- High Vocabulary level
- Theme emphasis—Achievement
- Fluency
- Narcissistic feeling
- Pleasant feeling tone
- Theme emphasis—Receiving aid
- Conflict issues attacked
- Aesthetic feeling
- Emphasis on future time

- Emphasis on past time
- Environment described as benign
- Clear story outcome
- Whole (versus detail) interpretation
- High Number of pictures liked
- Reference to sex activity

The TAT categories most significantly linked with unfavorable personality variables are as follows:

- Extracceptive interpretation
- Sadistic feeling
- Theme emphasis—Punishment
- Perceptual distortion
- Theme emphasis—Frustration
- Theme emphasis—Anxiety
- Emphasis on present time
- Feminine identification
- Popular interpretation
- Picture dominated interpretation
- Theme emphasis—Aggression
- Reference to light or dark features of picture
- Rare details noted
- Picture criticism

Many of the items in the above lists may be logically viewed from their opposite aspects if no ambiguity results. Thus, low *Fluency* and low *Emphasis on Achievement* are presumably related to unfavorable personality variables; and *Intracceptive interpretation* and absence of *Perceptual distortion* are associated with favorable traits. It appears, however, that some of the categories are meaningful only in their positive expression, the negative statement permitting only an indeterminate inference with respect to personality. A few TAT categories are among the most significant in terms of number of high correlations, but show no clear direction of relationship to the personality criteria. The following items—*Strong interpersonal relationships*, *Inferiority feeling*, *Stereotypy*, and *Guilt feeling*—yield high correlations with both favorable and unfavorable personality variables.

The analytic and quantitative approach developed here has bearing upon

both individual and group uses of the TAT. If later investigators bear out the generalized significance of the category analysis, it may be possible to develop a knowledge of the interpretation of specific responses on the TAT that will contribute incisively to the clinical picture of personality. The analogy to this is the system of symptomatic signs in medicine which plays an indispensable part in physical diagnosis. Similarly, in

the application of the TAT to group testing or in other large-scale uses of the method, a quantitative basis for interpretation is indispensable. If the characteristics of TAT responses are predictive of specified personality traits or of broad temperamental differences, the way is opened to utilizing the method as an aid to diagnosis in all the various fields where the assessment of personality is important.

## VI. SUMMARY

### A. PROCEDURE

THE significance of the Thematic Apperception Technique in the clinical diagnosis of personality was systematically explored. Special tests and interviews in addition to usual case-studies were given to thirty-five psychiatric clinic cases (boys, white, ages 13-17, of average intelligence). A rating scale covering 42 behavior variables was employed to summarize in quantifiable form the personality diagnosis of each case as independently determined by the Experimenter and the Psychiatrist.

The TAT was administered last, following a standard procedure, the responses being recorded verbatim. In the treatment of the data the Experimenter made a detailed analysis of the TAT records by numerically rating each story according to fifty-six classifications of content and form. All stories were initially rated in random order, picture by picture; the records were then assembled and the scores on each category totalled. The Subjects were thereupon divided into low and high groups within each category; these dichotomies formed the basis for the determination of bi-serial correlations with the distributions of ratings on the personality scales.

An independent observer also interpreted the TAT protocols by blind analysis. Knowing nothing about the individual subjects but their ages he undertook to rate their personality traits on the same form of scale which the Experimenter and the Psychiatrist had completed. Product-moment correlations were then computed between the judgments of the three raters on the separate personality variables, as well as between

their ratings of these variables on each case considered by itself.

The major emphasis of the research is upon the comparisons between each TAT response category and the personality variables of the rating scale. Bi-serial correlations totalling 2240 in all<sup>1</sup> were analyzed statistically as well as by psychodynamic criteria such as: (a) the over-all plausibility of the separate correlational comparisons, (b) the consistency between all the personality variables highly correlated with each TAT category, and (c) the consistency between all TAT categories highly correlated with each personality variable.

### B. RESULTS

The data as a whole present strong evidence for the diagnostic value of the TAT. Some of the main findings of the study follow:

1. The fifty-six TAT categories average over four statistically significant correlations ( $r = .38$  or higher) each with the personality variables. Some classifications such as *Vocabulary level* and *Fluency* yield twelve or more statistically significant correlations; others, such as *Theme emphasis—Escape*, yield none. Eighteen of the fifty-six TAT categories appear clearly significant as judged by clinical and statistical criteria, sixteen probably significant, eight doubtful, and fourteen of indeterminate significance.
2. The personality variables highly correlated with given TAT categories tend to be related or consistent with each other. Thus *Emphasis on future time* in

<sup>1</sup> Complete results are available in the original dissertation on file in the University of Chicago Library.

the TAT correlates with the personality variables Feels superior, Extroverted, Popular, Realistic, and Prefers group recreation. *High feminine identification* in the TAT correlates highly with Impulsive, Asthenic appearance, Poor total adjustment, Many nervous symptoms, Feels inferior, and Self-conscious.

3. All but six of the personality variables are correlated to a statistically significant degree with three or more TAT categories. The personality trait—Realistic—for example, correlates substantially with thirteen different categories.

4. The TAT categories highly correlated with given personality variables tend to be consistent with each other; thus, the TAT characteristics associated with Happy temperament are: *Fluency, Interjections, High Vocabulary level, Conflict issues attacked, Theme emphasis—Achievement, and Pleasant feeling tone.*

5. The most important categories are also those which tend to be clearly associated throughout with either favorable or unfavorable personality variables. Examples of TAT categories linked with "good" personality characteristics are: *High Vocabulary level, Theme emphasis—Achievement, Fluency, Narcissistic feeling, and Pleasant feeling tone;* examples of TAT categories allied to "poor" personality characteristics are: *Extracceptive interpretation, Sadistic feeling, Theme emphasis—Punishment, Perceptual distortion, and Theme emphasis—Frustration.*

6. Where the thematic item and the personality variable are of a related character the association is usually direct; e.g., *Theme emphasis—Frustration* correlates .44 with the variable Emotionally

deprived. This finding is also true of formal characteristics of the TAT; e.g., the TAT category *Pleasant feeling tone* correlates .45 with Happy temperament.

7. Although antithetical relationships are the exception rather than the rule, correlational comparisons which are apparently discordant are noted for a number of TAT categories: *Theme emphasis—Receiving aid, Guilt feeling, and Inferiority feeling.*

8. The cognate type of relationship is not necessarily the most significant statistically; the personality variable *Fluent* correlates .60 with *Strong Interpersonal relationships* as compared to .46 with *Fluency.*

9. Results of the blind analysis interpretation of the TAT are significantly above chance expectancy. On thirty-four separate personality variables the TAT-Interpreter shows a median product-moment correlation of .15 with the Experimenter's ratings and .17 with the Psychiatrist's ratings, as compared with the correlation of .44 between Experimenter and Psychiatrist. The number of correlations above a 5% level of significance is nine for the TAT-Interpreter-Experimenter (or 26% of the total number of correlations), five for the TAT-Interpreter-Psychiatrist (15%), and twenty-one for the Experimenter-Psychiatrist (62%) comparisons.

10. In comparing the intra-individual correlations between single subjects as rated on all the personality variables by the three raters the median correlations are .19, .28, and .39 respectively for the TAT-Interpreter-Experimenter, the TAT-Interpreter-Psychiatrist, and the Experimenter-Psychiatrist series; the number of correlations above a 5% level of significance is, in the same order, 11,



15, and 20 (or respectively 31%, 43%, and 57% of the total number of correlations).

11. On the basis of the 5% criterion the blind analysis interpretation of the TAT may be roughly described for summary purposes as achieving one-third the agreement reached by Experimenter and Psychiatrist on separate personality variables, and relatively one-half their agreement on single cases.

### C. CONCLUSIONS

The following conclusions appear to be warranted on the basis of this investigation:

1. The TAT is diagnostic of major areas of personality, as measured here, rather than of limited segments only.

2. Regardless of the comparative value of intuitive, global, or organizational interpretations, the analytic and quantitative treatment of the TAT yields statistically and clinically significant results in the prediction of behavior and personality.

3. Relatively simple and objective components of TAT responses are associated to a statistically significant degree with specified personality variables.

4. There is little basis for the distinc-

tion between form and content elements in the TAT as uniquely related either to specific areas of personality or to the overt and covert levels of behavior. Either type of TAT attribute may be predictive in any of the personality areas.

5. Attention in the past has centered upon thematic analysis in TAT interpretation. Formal characteristics of TAT responses should be given increased emphasis inasmuch as they can be more objectively determined and may, particularly in applications to group testing, be more revealing of certain aspects of personality.

We have sought to examine the Thematic Apperception Technique through an experimental design which would not distort the essential clinical nature of the method. In an exploratory research where the complexity of the basic data sharply limits the degree of precision, findings are necessarily tentative and their generalized interpretation dependent upon the usual process of scientific verification. The results and conclusions are therefore best viewed as hypotheses to be further tested in the light of clinical experience and controlled experimentation.



# APPENDIX A BEHAVIOR RATING FOR USE IN TAT STUDY

Case No. \_\_\_\_\_  
Code No. \_\_\_\_\_  
Rater \_\_\_\_\_  
Interview  
TAT

## I. APPEARANCE

1. Asthenic—Pyknic
2. Weak—Strong
3. Handsome—Ugly
4. Untidy—Neat

1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

## II. RESPONSE DURING INTERVIEW

5. Friendly—Hostile
6. Evasive—Frank
7. Self-conscious—Poised

5. \_\_\_\_\_  
6. \_\_\_\_\_  
7. \_\_\_\_\_

## III. PERSONALITY TRAITS

8. Dull—Bright
9. Fluent—Taciturn
10. Feminine—Masculine
11. Energetic—Apathetic
12. Aggressive—Passive
13. Depressed—Happy
14. Mature—Infantile
15. Inhibited—Uninhibited
16. Stable—Unstable
17. Anxious—Secure
18. Introverted—Extroverted
19. Deliberate—Impulsive
20. Self-reliant—Dependent
21. Realistic—Autistic
22. Feels inferior—Feels superior
23. Easily frustrated—High threshold

8. \_\_\_\_\_  
9. \_\_\_\_\_  
10. \_\_\_\_\_  
11. \_\_\_\_\_  
12. \_\_\_\_\_  
13. \_\_\_\_\_  
14. \_\_\_\_\_  
15. \_\_\_\_\_  
16. \_\_\_\_\_  
17. \_\_\_\_\_  
18. \_\_\_\_\_  
19. \_\_\_\_\_  
20. \_\_\_\_\_  
21. \_\_\_\_\_  
22. \_\_\_\_\_  
23. \_\_\_\_\_

## IV. AREAS OF ADJUSTMENT

- |                                       |                          |           |
|---------------------------------------|--------------------------|-----------|
| 24. Home atmosphere.....              | Pleasant—Unpleasant      | 24. _____ |
| 25. Relationship to father.....       | Attachment—Rejection     | 25. _____ |
| 26. Relationship to mother.....       | Attachment—Rejection     | 26. _____ |
| 27. Relationship to siblings.....     | Attachment—Rejection     | 27. _____ |
| 28. Relationship to adults.....       | Defiant—Compliant        | 28. _____ |
| 29. Relationship to peers.....        | Popular—Disliked         | 29. _____ |
| 30. School adjustment.....            | Good—Poor                | 30. _____ |
| 31. Material needs.....               | Satisfied—Deprived       | 31. _____ |
| 32. Emotional needs.....              | Satisfied—Deprived       | 32. _____ |
| 33. Recreation.....                   | Sedentary—Active         | 33. _____ |
| 34. Recreation.....                   | Solitary—Group           | 34. _____ |
| 35. Recreation interests.....         | Many—Few                 | 35. _____ |
| 36. Moral standards.....              | Conventional—Anti-social | 36. _____ |
| 37. Sex adjustment.....               | Conflicted—Unconflicted  | 37. _____ |
| 38. Sex activity.....                 | Retarded—Exaggerated     | 38. _____ |
| 39. Nervous symptoms.....             | Many—None                | 39. _____ |
| 40. Goals and ambition.....           | Ambitious—Drifter        | 40. _____ |
| 41. Total personality adjustment..... | Good—Poor                | 41. _____ |
| 42. Prognosis.....                    | Poor—Good                | 42. _____ |

## V. CERTAINTY OF RATINGS.....

Certain—Doubtful 43. \_\_\_\_\_

## VI. COMMENTS

1. What is his general physical habitus--long limbs and short trunk (asthenic), or short limbs and relatively large trunk (pyknic)?

Asthenic	Tends to asthenic	Athletic	Tends to pyknic	Pyknic

2. Does he appear outwardly strong and healthy or weak and sick?

Weak Sickly	Rather weak & sick	Average physique & health	Rather strong & healthy	Robust & healthy

3. Judge his appearance with reference to usual standards of male beauty.

Handsome	Rather attractive	Average looks	Unattrac- tive	Ugly & repulsive

4. Is he slovenly or neat in personal appearance and dress?

Unkempt Slovenly	Rather untidy & negligent	Average tidiness	Neat Shows care	Very neat Fastidious

5. How pleasant and friendly is he during interview?

Friendly Pleasant	Fairly pleasant	Neutral	Rather hostile	Hostile Unpleasant

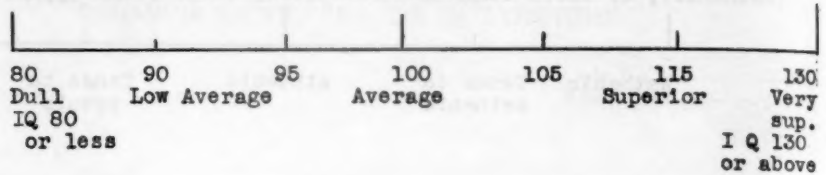
6. How frank is he during interview?

Evasive Untruth- ful	Rather evasive Defensive	Average frankness	Rather frank	Frank

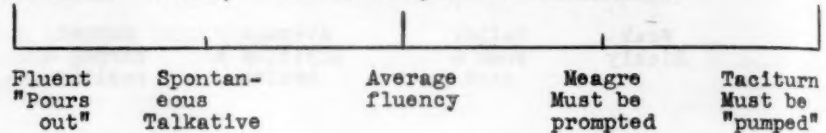
7. Is he self-conscious or poised during your interview?

Self-con- scious Ill-at- ease	Rather self conscious	Average manner	Fairly poised Seldom flustered	Poised At-ease Self-po- sessed

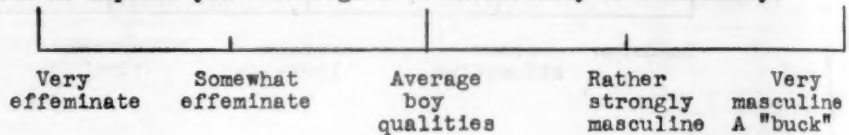
8. How intelligent is he? Evaluate the psychological findings clinically and estimate the most valid rating.



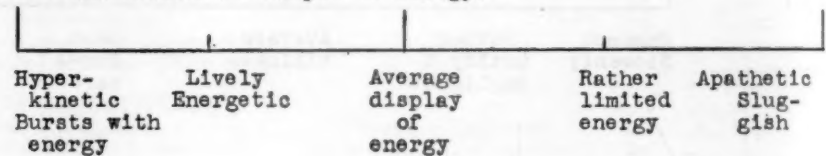
9. How fluent is he verbally under ordinary circumstances?



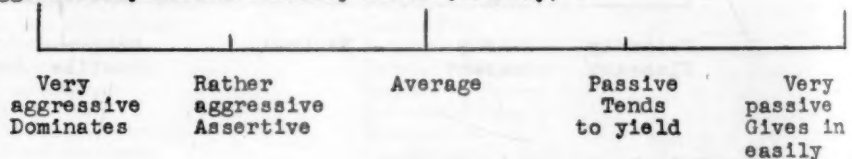
10. How does he impress you with regard to masculinity or femininity?



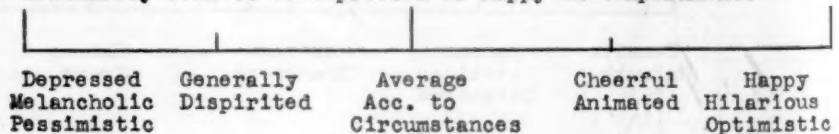
11. What is his characteristic output of energy?



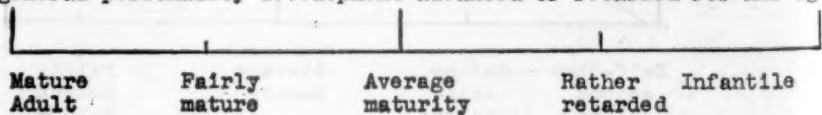
12. How aggressively does he usually react (overtly) ?



13. Does he ordinarily tend to be depressed or happy in temperament?



14. Is his general personality development advanced or retarded for his age?



15. How inhibited is his behavior in personal or social relationships?

Inhibited Restricted responses	Rather inhibited	Average	Fairly uninhibited	Very uninhibited
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16. Does he tend to be stable or changeable emotionally?

Stable Very even moods	Fairly even tempera- ment	Average stability	Rather variable Over- reacts	Unstable Extreme mood shifts
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17. Is he generally anxious or free of anxiety?

Very anxious	Rather anxious	Average anxiety	Fairly secure	Secure Little anxiety
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18. Do you judge him to be predominantly introverted or extroverted?

Intro- verted	Rather intro- verted	Average Mixed	Rather extroverted	Extro- verted
------------------	-------------------------	------------------	-----------------------	------------------

19. Does he tend to act impulsively, or with caution and deliberation?

Cautious Deliberate Calculating	Considers rather carefully	Average forethought	Acts quickly Unreflec- tive	Impulsive Bolts Unthinking
---------------------------------------	----------------------------------	------------------------	--------------------------------------	----------------------------------

20. Does he think and act for himself, or is he inclined to follow and depend upon others?

Self- reliant Initiates action	Fairly independent	Average	Rather dependent Seldom acts on his own	Dependent Follows lead entirely
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21. Is he realistic or autistic in his mental approach to problems?

Objective Literal Mirrors reality	Fairly Objective Little distortion	Average reality approach	Day-dreams Wishful thinking	Very sub- jective Distorts reality
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22. Does he feel generally inferior or superior to others?

Strong inferiority feelings	Feels rather inferior	Average	Feels rather superior	Feels genuinely superior
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23. How much self-control does he show under frustration?

Easily frustrated Explosive	Rather irritable Impatient	Average self- control	Tolerant Seldom loses control	Good Control High threshold
-----------------------------------	----------------------------------	-----------------------------	-------------------------------------	--------------------------------------

24. Is his picture of the home atmosphere one of harmony or of discord?

Pleasant Harmonious Mutual affection	Fairly Harmonious Mutual acceptance	Average family adjustment	Rather Discordant Quarrelsome	Unpleasant Constant discord Antagonisms
---	--	---------------------------------	-------------------------------------	--

25, 26, & 27. Consider the closeness of his relationships to the other members of his family (or foster family if roles are well-defined).

25. Father (or father substitute)

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26. Mother (or mother substitute)

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27. Siblings, in general

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Close Attachment Mutual affec- tion. Identifi- cation	Attached Sympathetic relation- ship	Average acceptance	Indifferent Ambivalent	Reject- tion Rivalry Open dislike
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28. How accepting is he of adults in authority?

Defiant Openly rebellious	Critical Suspicious Resenting	Average	Generally docile Respectful	Compliant Trustful Accepting
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29. How well does he adjust to others of his own age-group?

<hr/>				
Very well adjusted Very popular	Good adjustment Well liked	Average adjustment	Rather poor adjustment Tolerated	Poor adjust- ment Disliked

30. How well has he adjusted to school during the past year?

<hr/>				
Very well- adjusted Likes. Very interested	Good adjust- ment	Average Usual minor problems	Rather poor Often in trouble	Very poor Many problems

31. Does he feel deprived or satisfied as far as material wants such as food, money, or clothes are concerned?

<hr/>				
Satisfied Secure	Fairly secure Usually satisfied	Average satisfaction or deprivation	Feels somewhat deprived	Feels very deprived

32. Does he feel deprived or satisfied in his needs for love and affection?

<hr/>				
Satisfied Secure	Fairly secure Usually satisfied	Average satisfaction or deprivation	Feels somewhat deprived	Feels very deprived

33. Does he prefer sedentary or physically active recreation?

<hr/>				
Prefers sedentary play	Usually sedentary	Average Mixed types of play	Usually prefers active play	Seeks active play entirely

34. Are his recreational activities predominantly social or solitary?

<hr/>				
Prefers solitary play	Usually solitary	Average Mixed	Usually prefers group play	Seeks group play entirely

35. Are his recreational interests varied or restricted in range?

Varied Many interests	Fairly wide interests	Average number & range	Few interests	Narrow activity No interests
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36. Are his standards of morality and conduct conventional or anti-social on the whole?

Rigid conventional standards	Strict standards	Average Mixed attitudes	Standards rather loose & unconventional	Anti- social Rebellious
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37. Does he worry much about sex problems?

Very worried Pre-occupied	Conflicted	Normal Usual conflicts	Few conflicts	No conflict Unconcerned
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38. What degree of sex interest or activity does he display?

Very retarded development	Quiescent Retarded development	Normal for age	Exaggerated interest & activity	Very exagger- ated
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Indicate the main area of sex interest:

AUTO-EROTIC      HOMO-SEXUAL      HETERO-SEXUAL      OTHER (specify)

39. To what extent are his conflicts expressed in psycho-somatic behavior?

Many nervous symptoms	Some nervous symptoms	Average symptomatic behavior	Few nervous symptoms	No nervous symptoms
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40. Is he strongly motivated towards achievement?

Strongly motivated Very ambitious	Fairly ambitious Definite goals	Average aspiration & effort	Little ambition Routine effort	Drifter No plans Unambit- ious
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41. Consider his total personal and social adjustment, avoiding if possible special reference to any of the factors above; how well integrated and adjusted is he on the whole?

Very well-adjusted	Well adjusted	Average adjustment	Poor adjustment	Very poor adjustment
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42. Assuming he is released into the community what is the expectation that he will continue delinquent behavior?

Poor prognosis	Doubtful Likely to get in trouble again	Average outlook	Unlikely to be in trouble again	Good Prognosis
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43. As compared with the usual case did you find most of your judgments of this boy's personality clear or difficult to define? Indicate the degree of certainty you feel in your ratings of his personality and behavior.

Especially certain	Average degree of certainty	Doubtful
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#### COMMENTS

Describe briefly any outstanding personality characteristics or behavior items not included above.

## APPENDIX B

### DEFINITIONS OF TAT RESPONSE CATEGORIES

Most of the TAT response categories outlined in the text need no further explanation, the ordinary dictionary definition being assumed. Those categories which are specialized in meaning or which have specific application to the TAT are briefly defined below. The principal guides to usage have been Murray (16) and W. E. Henry (9). Comments have also been included to clarify the procedure of quantification.

#### *Modes of Response*

##### 1. Degree of fluency

Consider the smoothness and volubility of the response. Is it produced with ease—or is it forced, hesitant, awkward? Take into account: initial response time, pauses, hesitations, repetitions, total time in relation to length of response, ease of transition from sentence to sentence or from thought to thought. Length of response in itself is given no special weight but is considered in relation to the other factors.

##### 2. Speed of initial response to pictures

This category was not rated. The cases were ranked directly by average length of time for response. The point of dichotomy of the fast and slow groups, for the calculation of bi-serial  $r$ , was taken at seven seconds.

##### 3. Degree of compliance with the instructions

How closely does S. comply with instructions? Specifically, does he give the three main parts called for: antecedents, situation, outcome? Does he indicate the thoughts and feelings of the characters? Quality of response alone is not considered here. Rejected pictures will be classed as failure to comply. This category is not used in the very broad sense taken by Rapaport who includes many forms of evasion and subtle non-compliance.

##### 4. Number of questions asked

##### 5. Number of interjections

##### 6. Amount of picture criticism

Comments, usually adverse, about the picture itself. The criticism may be stated in a general form, such as, "Well this is a funny picture at first. Can hardly make anything out of it." Or some specific feature may be picked out, for example, "His arm is drawn funny."

##### 7. Degree of certainty with which response is stated

Consider the degree of certainty conveyed by the response. Are the words used expressive of conviction, or of doubt, indefiniteness, inconclusiveness? How much use is made of the words: guess, seem, maybe, might, could be. Consider the form of statement: direct declarative sentence, or questioning, hesitant, sentence types. Does S. use the form "looks like" or "seems" rather than "is"? Are definite pronouns used, or vague terms such as "something," "somebody."

##### 8. Degree of self-reference

Consider the degree to which S. introduces himself into the response. Is the response entirely impersonal, or highly personal? What use is made of the first person pronouns?

##### 9. Number of pictures liked

The subjects were ranked directly by total number of pictures liked, those indicating ten or more being classified in the high group for this category.

##### 10. Degree to which response is disjointed or incoherent

Disruptions of thought sequence. Changes in the frame of reference. Striking irregularities in response. Shifts in time sequence or unity. Mere awkwardness of phrasing or words is not considered.

##### 11. Degree of stereotypy of language, ideas, or form

Is there undue repetition of words, phrases, or ideas? Is the form of response stereotyped or varied? Is the manner of approach unvaried? Is there marked repetition of themes? Perseveration?

##### 12. Clarity of statement of the story outcome

#### *Formal Characteristics of Responses*

##### 13. Relative emphasis on past time

##### 14. Relative emphasis on present time

##### 15. Relative emphasis on future time

##### 16. Vocabulary level

##### 17. Popular (versus unusual) interpretations

Is the interpretation unusual, or is it one

frequently made? Consider the response as a whole rather than its details or elements. Compare the response to each picture with responses given by all other subjects to that picture.

18. Picture dominated (versus concept dominated) interpretations

Is the interpretation bound to the observable facts of the picture, or does the picture serve merely to release conceptual material? Is the picture just the starting point for the story or is there continual referral back to the picture? Is action contained within the bounds of the picture or is it unbounded?

19. Whole (versus detail determined) interpretations

To what degree is the picture interpreted as a whole? Is the response an inclusive one or is it centered on parts of the picture?

20. Extrareceptive (versus intrareceptive) interpretations

What is the relative emphasis on description or action versus feelings and emotions? Is the action determined by external forces or by the emotions and needs of the characters? Is the tone or outlook of the story objective or subjective?

21. Degree of emphasis on action or movement

What use is made of words expressive of activity? This category refers to overt movement; it does not include description of strong emotion or feeling which does not result in action. Does the response depict a static scene or an episode involving interaction or movement?

22. Strength of attack upon conflict issues

How is the conflict situation resolved, by action directed towards the situation or away from it? Is there a positive approach to the problem, or withdrawal and escape? Does S. do or say something to alter the situation or does he accept or withdraw from it? Rationalizing, ignoring, denial, and phantasy are considered forms of escape.

23. Degree of peculiarity of content

Verbalizations which are phantastic, bizarre, or unusual. Judgment here is based on the impression of the possible pathological significance of a given item in relation to the rest of the response; a word or statement which seems entirely out of context. Judgment here is also partly de-

termined by the usual response to a given picture. Examples: "Man's climbing up that rope—lots of times people hang themselves playing on ropes. . . ." "He stands there and stares and imagines he is a star."

24. Number of rare picture details observed

25. Degree of distortion of perceptual elements of pictures

*Thematic Emphases*

26. Achievement

Description of behavior directed at gaining recognition, social approval, or acceptance. To work at something important with energy and persistence. To strive to accomplish. To get ahead in business; to persuade or lead a group; to create something. Ambition manifested in action.

27. Frustration

Descriptions of situations in which the characters are prevented from reaching some goal or satisfying a wish or need. Some activity is interfered with or uncompleted because of either environmental or human forces, e.g., lack of money, personal domination. Difficulty, loss, failure, restraint, imprisonment—when these interfere with the actions of the characters.

28. Aggression

Emotional and verbal: to quarrel, curse, criticize, belittle, reprove, blame, ridicule, to hate, to get angry. Physical: to fight, kill, avenge attack, pursue, punish. Destruction: to attack or kill, to break, smash, destroy, or burn a physical object (Murray).

29. Anxiety

An emotional attitude characterized by uncertainty, apprehension, fear, worry. This category overlaps a number of others: Certainty feeling, Guilt feeling, Inferiority feeling. It is used here in the usual clinical sense, without special reference to the situation producing the anxiety or the particular form that it takes (guilt, inferiority). Anxiety refers to an emotional state which may accompany a variety of other emotions or activities.

30. Conflict

Descriptions of painful emotional states resulting from tension between contradictory wishes. A state of uncertainty, indecision, or perplexity. A momentary or enduring opposition between impulses, needs, desires, aims. Moral conflict. Paralyzing inhibitions.



## 31. Punishment

Description of situations in which the character is punished for some misdeed.

## 32. Giving aid

Murray's Nurturance theme. To express sympathy in action. To be kind, considerate, encouraging, pitying, consoling. To aid and protect, defend or rescue. Expression in wish or action of giving help, or of enjoyment in helping others. In this and in the following category, a principal character must be selected where more than one is described.

## 33. Receiving aid

Murray's Succorance theme. To seek aid or consolation. To ask or depend on someone else for encouragement, support, protection, care. To enjoy receiving sympathy, nourishment. Description of behavior directed at obtaining protection, sympathy, or assistance from another.

## 34. Escape

Description of situations in which the characters avoid or run away from danger, discomfort, harm, blame, or embarrassment.

## 35. Sensory gratification

Seeking or enjoyment of sensory gratification or pleasure. Enjoyment in satisfying bodily needs. Joy in bodily exercise, or recreation.

## 36. Passivity

To enjoy quietude, relaxation, sleep. To feel tired or lazy after little effort. To enjoy passive contemplation or reception of sensory impressions. To yield to others out of apathy or inertia. Desire for sleep or rest.

*Feeling Qualities Characterizing the Responses*

## 37. Pleasant feeling-tone

Consider the pleasantness or unpleasantness of the response as a whole. What is S.'s apparent feeling-tone in his interpretation? What feeling is conveyed by the discussion of interpersonal relationships? What are the emotional overtones in apparently indifferent response items?

## 38. Aesthetic feeling

Responses indicating appreciation of natural beauty or of the various art forms.

## 39. Paranoid feeling

Responses expressive of suspicion, prying,

spying, hidden threat. Example: "This woman looks like she's peeking in through the door at someone."

## 40. Guilt feeling

Expressions of guilt, shame, or repentance over wrong-doing. Self-condemnation.

## 41. Narcissistic feeling

Description of behavior aimed at gaining more than usual attention. Narcissistic exhibitionism. Undue interest centered in self. Expressions of self-satisfaction or admiration. Undue pleasure in praise or flattery. Example: "That story was pretty good. I used my own imagination." Or, "He crosses the goal. The crowds are yelling. He feels real real good. And his team mates pat him on the back and say, 'nice going.'"

## 42. Sadistic feeling

Responses describing pleasure in the infliction of pain. Dwelling upon episodes of violence and cruelty with apparent relish; absence of feeling or of the usual reaction to such incidents. Examples: "The animal destroys it and eats certain parts of it, and certain parts he saves. . . ." "He killed her, murdered, strangled her. He feels kind of sorry."

## 43. Inferiority feeling

Expression of feelings of inadequacy, worthlessness, inferiority. This category overlaps that of Guilt feeling. Included in this also are expressions by S. of inadequacy in relation to the task.

## 44. Expressions of ambivalence

Responses describing contradictory or vacillating attitudes and behavior with reference to the same object or person. Expressions of love and hate, or acceptance and rejection directed at one person. This is a narrower term than Conflict which implies a painful emotional state. Descriptions of clearly ambivalent behavior may contain no indication (other than by inference) of conflict.

## 45. Environment described as benign

Is the external world seen as: friendly, supporting, rewarding, accepting, helpful, interesting? or is it seen as: harmful, punitive, rejecting, thwarting, demanding, unfriendly, monotonous, mysterious?

## 46. Interpersonal relationships described as concordant

This is a broad category covering all dis-

cernible forms of positive-negative or approach-avoidance behavior in the relationships of the persons described. Are the attitudes and emotions expressed positive, affectionate, tolerating, supporting? or are they negative, harsh, hating, resentful, critical? Consider the emotional tone in which interpersonal relationships are discussed.

47. Interpersonal relationships described as strong rather than weak

Consider primarily the amount and strength of interpersonal contact. Is there much concern with interpersonal behavior or is this weak or absent? Is the emphasis placed upon other factors in the lives of the characters? This category has no reference to the *type* of relationship; for example, both conflictful and concordant types of inter-relationships might be classified here as strong, or as weak.

48. High degree of feminine identification indicated

The ambiguous figures are identified as female. Uncertainty with respect to sex identification. Strong empathy shown with female characters.

*Topics Emphasized in the Responses*

49. Age of characters

This does not refer to incidental descrip-

tions but rather to responses suggesting special awareness of this issue.

50. Newness or age of objects

51. Neatness or orderliness

Responses suggesting awareness of neatness or its opposite. Comments on regularity or irregularity, routine or disruption of routine.

52. Light or dark features of the pictures

Comments on shading, shadows, or brightness. Mention of sunlight or moonlight.

53. Books or movies cited as source of the story

Response is given as though quoting from a book or movie, or as though describing another painting.

54. Suicide

55. Sex activity

Direct or implied description of sex activity. Suggestion of sex interest or awareness.

56. Appearance or dress of male characters

Responses indicating interest in the physique or appearance of male figures in the stories. This category implies specific interest; it does not include incidental descriptive terms. Example: "Looks very powerful. He built his body." "He looks very handsome."

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